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The American Speech and Hearing Association

THIRTY-THIRD ANNUAL CONVENTION

November 20-22, 1957, Netherlands Hilton Hotel, Cincinnati

FORMAL CALL FOR PAPERS

An invitation is again being issued to all members of the Association to submit abstracts of papers which they wish to have considered for presentation on the program at the Annual Convention in 1957. Non-members are also invited to submit abstracts, but these must be sponsored by a member. General program ideas and suggestions are also earnestly solicited by the Program Committee. All communications, including abstracts, should be sent to Virgil A. Anderson, Speech and Hearing Clinic, Stanford University, Stanford University, California.

The deadline for submission of abstracts is *May 15*, but members are urged to forward their proposals as far in advance of that date as possible. General program suggestions should be sent in immediately if they are to be of help to the Committee.

Abstracts must include (1) the full title of the proposed paper, (2) the name of the contributor and his professional affiliation, (3) the time required for the presentation, (4) details of any equipment needed for the presentation, and (5) a concise summary of the content of the paper. Excessively brief, incomplete, or otherwise inadequate abstracts cannot be considered; in general, abstracts should be one to two pages in length. Abstracts of studies that are merely projected or those whose results cannot be predicted with reasonable assurance and completeness should not be submitted. In experimental studies, interpretation, significance and/or application of findings should be stressed. In general, these features are of more interest to an audience than highly technical and involved details of design, statistical treatment, or presentation of raw data, although naturally such features should not be omitted if deemed essential to the presentation.

Submission of an abstract implies that a contributor accepts the following responsibilities: (1) He must be present in person at the scheduled time. If unforeseen circumstances prevent his appearance, he must make suitable arrangements with his chairman as far in advance as possible. (2) He must keep strictly within the time limits assigned him by his chairman. This problem he must take care of in advance of his presentation, allowing ample time for the use of any audio-visual aids contemplated. In general, 12 minutes will be allotted to each paper. Longer papers will be considered, but can be accepted only if they are of unusual interest or significance. (3) He must confine his use of special equipment to that which is

usually available. He should further determine that his audio-visual materials are suitable and adequate for the conditions which typically prevail in convention rooms where section programs are held.

Perusal of previous programs will inform prospective contributors of the wide range of possible topics suitable for consideration. They need not be confined to experimental studies, but may include theoretical and practical discussions of any phase of the speech and hearing processes or any aspect of human communication. It is hoped that a large number of abstracts and program ideas will be submitted; careful consideration will be given to all of them.

This year the Committee hopes to include in the official program and, if possible, in the Program Announcement appearing in the September issue of the *Journal of Speech and Hearing Disorders* a listing of all of the special events of the convention including receptions, alumni luncheons, open houses, etc. Individuals responsible for such functions are urged to submit the essential information to the Program Chairman by June 17 for inclusion in the *Journal* or by July 29 for inclusion in the final Convention Program.

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Progress And Goals Of The Association

James Carrell

In the life of any individual or organization there come, from time to time, moments of singular significance, and the thirty-second annual meeting of the American Speech and Hearing Association was such an occasion. Decisions about the Association and the profession it represents which were made by the Executive Council, with the endorsement of the membership, are certain to have far-reaching consequences. Truly, one can say that as a profession, we have reached the age of our majority.

Ample proof of this assertion lies on every hand. The Association is in every respect a going concern. Scholarly research is opening up new avenues of understanding, and clinical skills are being perfected. Membership in the Association has reached an all-time high of nearly 4,000 individuals. It has become increasingly certain that in the immediate future the members of the American Speech and Hearing Association will enjoy in even greater measure the added security which comes from sheer force of numbers.

One of the great strengths of this Association is basically psychological. There is no group whose members appear to have a stronger sense of *identification*. This is altogether a healthy state for a professional ego, since this sense of belonging, and of sharing common concerns, is at least one of the hallmarks of a profession. Speech and hearing habilitation and rehabilitation is a profession with a long past, but a relatively short history; yet this fact must not, if it ever does, prevent us from realizing that this *is* a unique and distinctive profession. The emergence of speech and hearing therapy as a member of the family of professions has not been a matter of selfish desire for recognition, nor the result of any adolescent rebellion against authority. It was not even a result of purposeful planning. Instead, speech and hearing therapy became a distinctive profession through a process of evolutionary development which could have taken no other direction when one considers the function to be fulfilled. What has happened has been a matter of organic growth. Our first affirmation, then, is that we must recognize and verbalize the emergence of speech and hearing therapy as a profession.

The obligations of professional identity extend in many directions—toward those very goals, in fact, which are set down in the statement of the purpose of the Association. There is, however, another implied goal, not specifically spelled out in this general statement, which is of the utmost importance: a clearly formulated and purposefully implemented program of public relations, in the better and broader sense of that somewhat offensive term. This is one of our most pressing current needs. If it

James Carrell (Ph.D., Northwestern University, 1936) is Director of the Speech and Hearing Clinic and Professor of Speech, University of Washington. This article is an adaptation of the Presidential Address delivered at the ASHA convention in Chicago on November 19, 1956.

is true that this is a professional group with worthy goals, it then becomes an unavoidable obligation to interpret those goals to all who need to know.

Despite all that has been accomplished toward gaining acceptance for the Association and the profession it represents, the task still has not been completed. It is true that to an increasing degree other professional groups are turning to the American Speech and Hearing Association for guidance in matters relating to our specialties. In the past year, for example, representatives of this Association have completed a directory of aphasia rehabilitation centers for the Department of Health, Education and Welfare; important conferences with the Federal Office of Vocational Rehabilitation have been scheduled; the President's office has received and responded to numerous requests for delegates to meetings and conferences of other professional groups, most frequently those which are allied in general with the healing arts; the Association has cooperated with the National Health Association in the preparation of an important book on services for children with hearing impairments; United Cerebral Palsy has chosen this Association for the distribution of substantial scholarship funds; and the Association has cooperated with organizations such as the American Cancer Society, the National Society for Crippled Children and Adults, the planning committee for the International Congress of Otolaryngology, the American Hearing Society and many others.

These are only details, gratifying though they may be, which reflect acceptance of the American Speech and Hearing Association. In the larger picture, there still are negative aspects to the relationships of the Association with other professions. For instance, there has been no intercommunication during the past year with a large number of professional groups with whom this Association should be engaged in active cooperation. Too often we have had no opportunity to share in planning at the top level on matters which relate both directly and indirectly to speech and hearing rehabilitation. These instances involve federal agencies, other professional groups, and state and local agencies. As individuals, members of the Association frequently face wrong identifications. These remarks are not intended to be critical of the individuals who have in the past undertaken to further the interests of the Association. They are meant, rather, simply as a realistic appraisal of the need for improved relationships and wider acceptance.

A principal defect in the public relations policy and procedure arises from the fact that the Association has hitherto confined itself largely to awaiting an invitation to join with other groups in the consideration of problems of common interest and concern. The Association has been unduly diffident, as a professional organization, in initiating relationships. There have been many notable exceptions; yet the indisputable fact remains that in this respect the Association has been more passive than active.

There are reasons for this passivity. First, it is evident that this Association has never clearly verbalized in a systematic way the value and urgency of assuming the initiative in an organized and carefully planned campaign of inter-disciplinary liaison or public education. Great diffidence has been shown toward any action which might be interpreted as an attempt to impose the views and policies of this profession on others. There are yet conscious and unconscious feelings of insecurity which are inevitable

in a relatively young profession. To a point such feelings are healthy and should remain always, since they prevent the fatal errors of smugness and arrogance. At the same time, however, in accepting the role of a profession there is an obligation to carry out an aggressive program to gain acceptance for the philosophies and policies of the profession.

Up to this point public relations as a function of the Association have been considered. It is equally important to recognize that this is also an essential professional obligation of each individual member. This observation is scarcely original, and in theory need not be voiced again. As with so many self-evident truths, however, this one has never been fully applied. Public relations at the Association level will filter down to individuals in ancillary professions. At the same time, understanding and acceptance generated at what politicians are fond of calling the "grass roots" level will inevitably be communicated upward to the policy level of these allied professions.

As things stand now, much of the understanding of speech and hearing therapy is based on information communicated in informal face-to-face situations. The public school therapist who explains her work to a principal, fellow teacher, nurse, or physician is fulfilling a public relations function which in its way is as important as would be the principal address to, let us say, a medical congress. Each conference with a co-worker, each talk to a professional group, each article in the journal of an allied profession contributes in a significant way to the goal of understanding and acceptance for the profession of speech and hearing therapy. It should also be recognized that judgments about the profession of speech and hearing are determined by the degree to which competence is demonstrated by the individual members of the Association.

If the Association were to mount a full-scale public relations campaign, what information would it seek to disseminate? The general answer is not obscure. There should be greater awareness on the part of the public and among the professions of the primary fact—which at times seems astonishingly unknown—that there is indeed such a resource as speech and hearing therapy which can be brought to bear on the problems of children and adults with communicative disorders. Wider circulation should be given to the concept that such therapists are professional workers in their own right, with standards of preparation, a distinctive body of therapeutic principles and a rigorous code of ethics within which they will function at all times. Liaison with other professions and with agencies of many types would be freshened and strengthened.

Perhaps the most urgent and demanding need, however, is to circulate far more effectively the information about minimum standards for the practice of our profession. As this is done, all necessary steps must be taken to bring about adoption of these standards. At the moment certain standards have been explicitly formulated by the Committees on Clinical Standards in Speech and Hearing. They are embodied in the requirements for Basic and Advanced certification.

There is even now considerable evidence to support the view that fundamental revision of these standards is needed. It is the feeling of many that serious consideration must be given to the unique pattern of training needed by the public school speech and hearing therapists. A

clearer statement of such preparation might do much to give greater security to the public school therapist, and to provide a working basis for a program to raise standards in the schools. It might also be a more appropriate and realistic basis for certification by the Association. Such a review is even now being undertaken by a subcommittee on the training of public school therapists.

In a similar way it seems that the unique functions of other groups within our profession, such as research scientist and the highest level clinical consultant would profit if the Association formulated more clearly the basic qualifications demanded of each of these specialties.

Even though existing criteria fall short of perfection, they represent at any given time the basis on which to act aggressively. The present situation is a matter of common knowledge. On the positive side, one can point to the fact that a few states have certification requirements which approximate American Speech and Hearing Association criteria, while a larger number have given at least some recognition to the need for special preparation. With increasing frequency, employing agencies are patterning their job descriptions for speech and hearing therapists on ASHA certification requirements and many, in fact, demand actual certification.

The negative side of the picture is a matter for grave concern. There are many reports of speech and hearing therapy being practiced by individuals who are both incompetent and inadequately prepared, to the discredit of the profession. No one area is worse than another in this respect. In the State of Washington, for example, one agency, operating under the general policies of the State Personnel Board, hired for a speech therapy position in a custodial school a man with a Ph. T. (in Theology). He became available to them because his services as a temporary instructor in public speaking at a college were no longer needed and he was, for the moment, unemployed. A school district in desperate need of a hearing therapist hired a teacher who had never taken a course in hearing. One may question the motives of the individuals who accepted these positions, but for the moment this is irrelevant. The most kindly remark that can be made about the employers is that they are naive, and semantically confused by the fact that both 'therapists' were 'speech majors' as undergraduates.

The blame for incidents such as these must not be projected onto the employer or the employee who was, perhaps, well-intentioned, but unwise. Certain conclusions are inescapable. The attempt of an incompetent or unethical individual to practice speech and hearing therapy prejudices the welfare of those whom he exploits and causes the members of this Association much embarrassment; it also does irreparable damage to the reputation of speech and hearing therapy among the other professions and the public. Since the American Speech and Hearing Association has emerged as the dominant organization of the profession, it must attack such situations with every weapon. Positive leadership need not involve arrogance. Specifically, it is our responsibility to do a far better job than we have as yet in making standards known, selling their acceptance, and, ultimately, in assuring their enforcement.

With rare exceptions, virtually the only reason anyone has ever hired an inadequately prepared speech or hearing therapist has been the fact that the employer did not know precisely

what he should be looking for, or did not realize that special preparation is essential. Theoretically, the employer should make a diligent search for this information, but it simply makes no sense for an association concerned with the welfare of the profession to wait until he does so.

The American Speech and Hearing Association need not convert itself into an objectionable pressure group; rather, it may be assumed that those concerned with the selection of speech and hearing therapists wish to make no mistakes, and will welcome information about standards.

The files of the Committee on Ethical Practice bulge with letters having a familiar theme: 'There is a person in our community who is doing speech and hearing therapy, but who has no training. Can't the American Speech and Hearing Association do something about this?' In the final analysis, the present answer is 'no', frustrating though it may be. The facts can be investigated. If inquiry is made, a reply can be put only in terms of whether or not he is a member of, and certified by, the American Speech and Hearing Association—even if investigation has disclosed him to be a magnificent fraud or an irresponsible psychotic. Anyone who offers such an opinion must be prepared to defend a possible slander suit. Currently two members of the Association are under threats of this sort, although neither appears unduly alarmed. Obviously, however, the eventual goal must be uniform licensing laws among the states comparable to those now in force for Law, Medicine and Dentistry.

It is not too soon to be laying plans toward that end. Perhaps the most obvious starting point would be an attempt to influence public school certification practices at the state level. A similar kind of effort might be directed toward every other agency employing speech and hearing therapists. It is certain, however, that no system of licenses can be imposed successfully until readiness for them has been developed.

In summary, it as been proposed that the speech and hearing profession must realize its maturity and re-affirm its dedication to the purposes for which the Association was founded; that the time has come when the Association must assert its leadership in a more purposeful and forthright manner; that the Association must come to have greater impact, not only by improvement of the competence of its members, but also through a deft and adroit program of public relations and education. It is an exciting challenge to us as individuals, and to the Association.

Effects Of Time Compression Upon The Comprehension Of Connected Speech

Grant Fairbanks

Newman Guttman

Murray S. Miron

This article reports an experimental investigation of the relationship between comprehension of the factual details of extended spoken messages and the rate at which they were heard. The matters of greatest interest were the variation of comprehension as a function of rate and the efficiency of comprehension, the amount per listening time. In addition, the interactions of rate, content difficulty, and listener aptitude were explored.

Control of message time, or of listening rate, was accomplished by means of the device for automatic time-frequency compression-expansion described by Fairbanks, Everitt and Jaeger (*2*). When used for time compression as in the present experiment, the device displays recorded material in less than the original time without essential alteration of the other dimensions of the signal. In a sample of speech, the time base is unselectively and uniformly compressed throughout with the time proportions of the signal units undisturbed. The essentials of the phonetic units, vocal pitch, stress, *etc.*, are preserved. The amount of compression, which may conveniently be thought of as a percentage of the original time, is variable and a given message may be presented to listeners at a variety of rates. In the experiment, for example, a message which was originally spoken at 141 words per minute was compressed by selected amounts. The largest of these was 70%, which yielded a listening rate of 470 wpm.

Auditory comprehension and speaking rate have been studied separately many times, but investigations of their interrelationships have not been numerous and the data are not extensive. No evidence of association was found

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by Miller (*5*), who studied classroom lectures delivered at comparatively slow rates. Harwood (*4*) and Nelson (*6*), both of whom included moderately fast rates among their conditions, reported that the effect of rate was discernible, but not significant. At fast rates, Goldstein (*3*) obtained significant reduction of comprehension.

In considering the results of these experiments, however, it is important to observe that the objective in each instance was to study the effect of the rate of the total speaker-listener situation, and that the independent variable, appropriately, was *speaking* rate. It is well known that live variations of speaking rate are accompanied by correlated non-rate changes which are large, systematic, and obviously important in the complete, live speaker-listener system. Examples of such accompaniments are the deterioration of articulation and the disproportionate reduction of pause time which ensue as speaking rate is increased. Variations of this kind were not at issue in the present investigation; it has been a study of *listening* rate.

Procedure

Experimental Materials. The basic stimulus materials were two technical messages on the subject of meteorology. One was concerned with meteorological instruments and the other with weather forecasting in support of flying. They were written for this special purpose and consisted of straightforward expositions of factual information, including descriptions of instruments, definitions of concepts, explanations of procedures, *etc.* Attempts were made to present content in which pre-knowledge would be small, dependence upon background information and skills (*e.g.*, technical terminology and mathematics) minimal, and levels of abstraction low. The messages were relatively long, 1554 and 1573 words, respectively. They bore close general similarity to classroom lectures, or to speeches such as a technical expert might prepare for presentation to a motivated lay audience.

The messages were read for original uncompressed tape recordings by an experienced, mature, male speaker who was paced at a target rate of 140 wpm by light flashes at one-minute intervals. This rate was selected on the basis of the data available in the literature, the results of a pilot experiment with another message, and a number of measurements made while the speaker practiced. The obtained rate was 141 wpm for each message, the total times being 11.04 and 11.18 minutes, respectively. The overall impression was that of a rate unquestionably close to the central tendency which would be expected for skilled speakers reading to communicate the content in question. The master recordings were made on Magnecord PT6 equipment at 15 ips, with an Altec M11 microphone system.

Comprehension was sampled by means of two tests, each consisting of 30 five-alternative multiple-choice items confined to the factual content. An attempt was made to provide a substantial range in difficulty among the items. A further goal, for each test considered individually, was to construct it so that the mean score of unselected subjects would approximate chance without the message and a point midway between chance and perfect score immediately after having heard the message, *i.e.*, 20 and 60% correct, respectively. The final tests were achieved after a series of trial presentations and revisions, which in-

volved carrying six different recorded messages and their tests through all stages, and selecting the two best message-test units. At the last preliminary presentation, to 49 subjects, these two units yielded mean scores of 59 and 62%, Kuder-Richardson reliability coefficients of .77 and .81, and a pooled reliability coefficient of .87. When the tests were administered without the messages to other subjects, the mean scores were 23 and 18%.

An additional consideration in test construction was provision for treatment of message-test difficulty. After various attempts to separate content difficulty from item difficulty it was decided, in view of the purposes of the experiment, to manage the two factors jointly and empirically in terms of the increment in comprehension produced by the message, or the message effectiveness. It was proposed to estimate the message effectiveness of each content item, the particular portion of the message corresponding to a given test item, as the difference between the percentage of correct responses to the test item when message-test and test-only conditions were administered to independent groups of unselected subjects. This method seemed warranted since the intention was not to deal with individual items, but to provide a rough means of stratification so that the tests could be sub-scored. As will appear below, five Message Effectiveness Levels were specified in this manner, each with 12 items distributed through the two message-test units.

Experimental Procedure. The plan involved assignment of independent groups of subjects to five message-test conditions corresponding to time compressions of 0, 30, 50, 60 and 70%, and an additional test-only, or 100% compression, condition. All subjects were young adult, male trainees at Chanute Air Force Base not engaged in weather training. Thirty-six were assigned to each of the message-test conditions, 44 to the test-only condition. Each group was composed of four equal sub-groups formed according to Stanine levels on the Technical Specialist Aptitude Index of the Airman Classification Battery. Stanines Five through Eight from the upper part of the distribution, with aptitude increasing in that order, were represented by random selection from available men for the various conditions. The plan further involved determination of the five Message Effectiveness Levels from the 0 and 100% conditions, as described above, and an analysis of variance with the four 30-70% conditions. The analysis was of a mixed factorial type, Compression by Stanine by MEL.

At each session which entailed message presentation the procedures were as follows: standardized, extemporaneous instructions; a two-minute sample of a similar message appropriately compressed (considered to cover adaptation to the particular rate); first message; first test; second message; second test. Message-test order was counterbalanced for each group and sub-group, and similar counterbalancing was employed with the test-only condition. Except where specified below, the 60-item yield from the two tests was pooled for each subject. Testing time was not limited.

Experimental sessions were conducted in a typical classroom located at Chanute Air Force Base. Ambient noise was appreciable, but not objectionably high or variable. Presentation was bilateral over Permoflux PDR-10 earphones with 1505 cushions. Twenty-four such headsets were arranged in a distribution system and

TABLE 1. Mean number of items correct at the various experimental conditions; 60 total items.

% Compression	*Rate*	*Mean*
0	141	38.3
30	201	35.9
50	282	34.8
60	353	26.8
70	470	15.7
100		12.4

fed by the Magnecord equipment through a matching transformer. The level was comfortable for listening and approximately equal by VU meter for all conditions. The various compressed versions of the messages were prepared in advance by methods described elsewhere (2) and it is necessary to note here only that a discard interval of 0.02 sec. was arbitrarily selected. Since the process involves periodic time sampling, the discard interval, or the segment between successive sampling intervals, should be short in relation to significant units of the signal. Although the optimum interval for connected speech is not known as yet, the value chosen was sufficiently short to avoid impairment of intelligibility by fragmentation of words.

Results

General Effects of Time Compression. Table 1 presents the mean number of items correct for the six conditions. The scores at 0 and 100% compression represent 63.8 and 20.7%, respectively, of the 60 items, close to the range mentioned above as a target for the materials. This range, 25.9 in terms of items correct, is a useful estimate of the effectiveness of the message under the most favorable condition, and is taken as 1.0 for purposes of the ordinate in Figure 1, which shows relative message effectiveness as a function of relative message time. The latter is the decimal fraction of the original message time remaining after compression. Corresponding values of rate in wpm are shown along

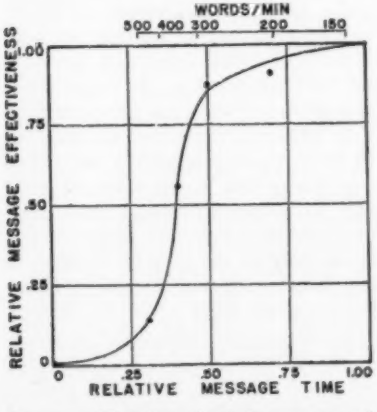

FIGURE 1. Variation of relative message effectiveness with relative message time. Upper scale: rate in words/minute.

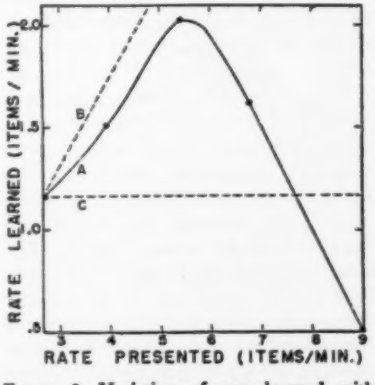

FIGURE 2. Variation of rate learned with rate presented. A, experimental. B, items correct unchanged by reduction of message time. C, items correct proportional to message time.

the top edge of the figure. The curve is seen to be typically sigmoid, with major inflection between 30 and 50% of the original message time. The message was 50% effective when the relative message time was approximately 40% of the original, rate being higher than 350 wpm. At 50% compression, with a rate of 282 wpm, the reduction in message effectiveness was small. In this condition the costs in time of the large amount learned and the small amount not learned were equal.

The negatively accelerated portion of the curve of Figure 1 may be interpreted as a reduction in message efficiency, or in learning per time. This view led to the re-plotting of the data shown in Figure 2, where the coordinates are rate learned and rate presented, both given in items per minute. The ordinate will be recognized as the reciprocal of the mean amount of message time per correct item; the abscissa is expressed in terms of the rate of item presentation, that is, the rate at which the content corresponding to the 60 test items was presented. The points show ordinate values for the five message-test conditions.

The slope of the broken line B is that which would obtain if there were no reduction in amount of learning as message rate was increased, while C would be the case if number of items correct were found to be directly proportional to message time. The empirical curve, A, is seen to be higher than C over much of the range (the 30, 50 and 60% compression conditions), and to be fairly close to B at the left, where it reaches its maximum at the 50% condition. Thus message efficiency, as measured by the amount of factual comprehension per stimulus time, increased up to a message rate of 282 wpm, at which rate the reduction in absolute amount of comprehension was not large (Figure 1).

It seems reasonable to suggest that, for learning of this type, the original message as recorded was relatively inefficient. If the original message is representative of expository lectures on factual topics, as it is believed to be both in content and delivery, then the implications for training procedures are direct, namely, that when message rate is slowed beyond a certain point the increment in learning becomes relatively costly in time, and that the cost should be weighed in terms of the objectives of the learning.

In the present experiment both messages were displayed to the subjects in the 50% condition in the mean time used for one message in the uncompressed condition, or 11.11 minutes. In the 50% condition that amount of time yielded an increment of $34.8 - 12.4 = 22.4$ in mean number of items correct (Table 1); in the uncompressed condition the same amount of time yielded a mean of $(38.3 - 12.4)/2 = 13.0$ items correct. Thus, if the standard of learning were set by the amount effected by the two messages in the 50% condition, then the use of the same time to display one message at one-half the rate would be little more than one-half as efficient. In short, the data appear to justify the conclusion that acceleration of message presentation beyond rates ordinarily practiced effects a given amount of learning of the type in question in less time, or a greater amount of learning in a given time.

Message Order and Serial Position. Since, as has been explained, the plan of the experiment involved pooling results from the two messages and sub-scoring according to variations in message effectiveness among the test

items, the general effects of order of messages and of serial position of content within messages were studied. The experiment was not designed to investigate either effect; study of them was for the purpose of supporting the intended procedures. It will be recalled that precautionary counterbalancing of order was practiced. When the two messages were scored separately for the various conditions, no evidence of order effect was found. Special attention was given to the large compression conditions with the idea that experience with the ultra-rapid rate during the first message might have placed the second message in a more favorable position. If such a situation in fact obtains, the present measures were not sensitive to it.

In writing the messages no attempt was made to control the frequency of occurrence of the portions of the content to be sampled, and the portions also were allowed to vary in 'difficulty' without regard to place of occurrence within the messages. However, the planned procedure of subscoring the results according to variations in response would have been open to question had such variations been significantly associated with serial position. Study of this possibility also gave negative results. Representative findings are presented in Figure 3. The abscissa is percentage of the total message time for the condition in question, the locations of content portions within that time being shown along the top by item number. The latter points were determined by measuring the cumulative time for presentation of the content measured by the first six, the first 12, *etc.*, items in the two messages and computing the mean. For example, the content corresponding to the first six items was presented in slightly less than 20% of the total message time.

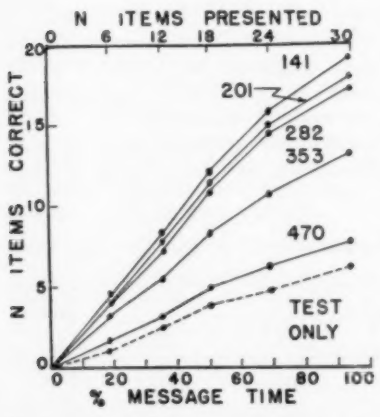

FIGURE 3. Cumulative number of items correct during message at various experimental conditions, rates labelled in words/minute. Broken line, reference curve for test-only condition.

It will be noted that the occurrence of sampled content was not completely periodic and that the density was reduced in the last one-fifth of the message particularly, where one-fourth of the time was used to present one-fifth of the content items. For a given point on the abscissa, the ordinate is the mean number of items correct per message. Curves are plotted for the various message rates; the test-only curve has been added as a control since neither message time nor position within message was a factor. Given periodic occurrence and equal difficulty of items, a straight line from zero to maximum would have been expected in the absence of positional effects. Deviations will be seen to be attributable largely to the lower item density in the last part of the message and to the test-only variations. It was concluded that serial position might be disregarded since, as will be shown

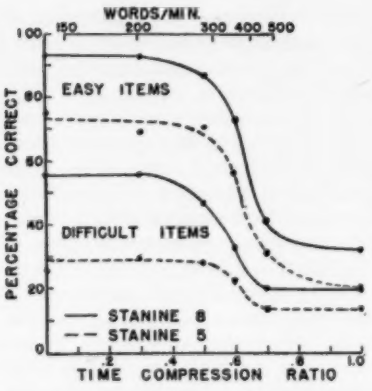

FIGURE 4. Mean percentage of items correct for the various experimental conditions. Stanine sub-groups five and eight; easy and difficult items.

below, effects were small in comparison to those of the groups of specific items formed in sub-scoring. It is of interest to observe the similarities of the shapes of the five message-test curves in Figure 3 to each other and to the curve for the test-only condition; interaction of compression and serial position was clearly small.

Aptitude of Listeners and Message Effectiveness Level. Figure 4 shows the general dimensions of the combined effects of compression, stanine and difficulty upon comprehension. The ordinate is percentage of items correct; compression increases to the right along the abscissa, the compression ratio being the percentage of compression divided by 100. For purposes of this illustrative graph, the 60 test items were arranged in descending order on the basis of number of correct responses in the uncompressed condition. The highest ranking 12 items have been designated in Figure 4 as 'Easy' and the lowest 12 as 'Difficult.' The solid and broken lines show mean scores for the Stanine Eight and Five sub-groups. The outstanding features are the large overall effects of all three factors, and the similarities in the shapes of the four curves as inflected by time compression.

The mean scores expressed in percentage correct for the five stanine sub-groups at each of the six experimental conditions are shown in Table 2. The progressions are as would be expected from the pairs of stanine curves in Figure 4, except for a few minor reversals. The distribution of items according to message effectiveness, estimated as described above from the results of the uncompressed and test-only conditions, was entered to yield five graduated sub-sets of 12 items each, referred to herein as Mes-

TABLE 2. Mean percentage correct for stanine sub-groups and total groups at the various experimental conditions.

% Compression	Stanine 5	6	7	8	Total
0	50.6	61.7	69.8	73.2	63.8
30	50.4	50.6	61.1	77.2	59.8
50	50.2	53.9	59.8	68.2	58.0
60	40.0	39.1	50.0	49.1	44.6
70	23.9	25.0	24.1	31.5	26.1
100	16.5	19.8	20.5	26.1	20.7

TABLE 3. Mean percentage correct at uncompressed and test-only conditions and mean difference between conditions for five Message Effectiveness Levels.

MEL	*% Items Correct*		
	Uncompressed	*Test-Only*	*Mean Difference*
1	79.6	10.8	68.8
2	71.3	20.6	50.7
3	60.9	19.1	41.8
4	59.5	25.2	34.3
5	47.7	27.8	19.9

sage Effectiveness Levels. Table 3 presents the mean percentage correct at each MEL for the two conditions mentioned, which will be observed to be negatively correlated, and the set of mean differences, which range roughly from 20 to 70%. In preparation for the statistical analysis the responses of each subject were subscored for the five MELs, and each sub-score was adjusted by subtracting therefrom the appropriate mean score from the test-only condition; this procedure may be thought of as correcting for pre-knowledge and test item difficulty at each MEL. The means of these adjusted scores expressed in percentage correct are presented in Table 4. It will be seen that the sets of five means decrease progressively in all message-test conditions, and that the same is generally true from condition to condition within MEL.

TABLE 5. Summary of analysis of variance; Compression, Stanine, MEL.

	df	*ms*	*F*
Between Subjects			
Compression (C)	3	628.80	79.09*
Stanine (S)	3	135.91	17.10*
C x S	9	12.59	1.58
Error (b)	128	7.95	
Within Subjects			
MEL (M)	4	335.62	149.83*
M x C	12	14.14	6.31*
M x S	12	2.51	1.12
M x C x S	36	3.10	1.38
Error (W)	512	2.24	
Total	719		

*$<.001$

The results of the analysis of variance are summarized in Table 5. This analysis estimated the effects of compression, stanine and MEL, and their interactions, employed the adjusted response scores as measures, and was confined to the 30, 50, 60 and 70% message-test conditions. As will be seen in Table 5, all three *F*s for the main effects are large and significant beyond the 0.1% level; the evidence for interaction is negative except for MEL by compression.

The non-significance of interactions involving stanine should be interpreted with due regard to the restricted range of levels in the present experiment. Study of the means of Table 2 dis-

TABLE 4. Mean message effectiveness at various experimental conditions for five MELs; see text.

% Compression	*MEL*				
	1	*2*	*3*	*4*	*5*
0	68.8	50.7	41.8	34.3	19.8
30	58.1	45.7	36.9	35.7	18.9
50	58.4	47.8	34.8	30.6	14.8
60	41.9	31.7	23.4	19.3	2.8
70	11.2	8.0	6.7	4.0	–3.1
100	0	0	0	0	0

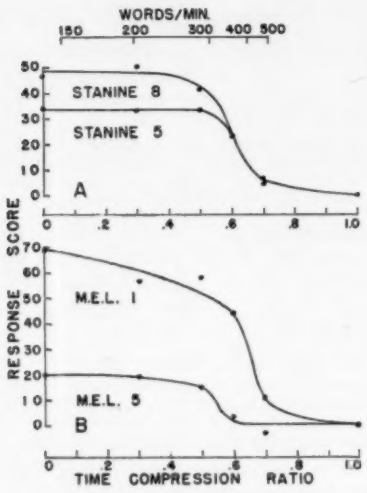

FIGURE 5. Mean response score (obtained percentage correct minus test-only percentage) for the various experimental conditions. A, stanine sub-groups five and eight. B, Message Effectiveness Levels 1 and 5.

closes that the differences between stanine levels decrease with increasing compression, although small differences obtain, as would be expected, even in the test-only condition. However, if the test-only mean is subtracted from the remaining means in each column to explore the differential effect of the message as if 'pre-knowledge' were equal, the result is as illustrated in Figure 5, A, which shows curves for the extreme stanine subgroups. Figure 5, B illustrates the necessity of specifying MEL in a statement about the effects of large time compressions.

Summary

A pair of independent message-test units, each consisting of an extended exposition of technical information and a corresponding test of factual comprehension, were developed. The messages were read by an experienced speaker at 141 wpm, recorded, and compressed automatically in time by various amounts. Independent groups of subjects, all Air Force trainees, were assigned to five experimental conditions which represented a series of compressions ranging from 0 to 70%, and to a sixth test-only condition in which no message was presented. Listener aptitude was controlled by forming equal sub-groups for each condition at four different levels. The effect of message-test difficulty was assessed by sub-scoring the results of the tests according to five message effectiveness levels which were based upon differences in response to test items in the 0% compression condition and the test-only condition.

The curve of comprehension as a function of message time was characteristically sigmoid. Response was approximately 50% of maximum when message time was 40% (60% compression, 353 wpm). When message time was 50% (282 wpm), the response was slightly less than 90% and efficiency, response per time, was maximal. Analysis of variance indicated that time compression, listener aptitude and message effectiveness all affect factual comprehension significantly, and afforded evidence that interaction of time compression and message effectiveness in the expected direction is significant.

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Auditory Comprehension Of Repeated High-Speed Messages

Grant Fairbanks

Newman Guttman

Murray S. Miron

The experiment here reported is related to a general investigation of the effects of time compression upon the comprehension of connected spoken messages (*2*). In the basic experiment two relatively long technical messages were read by an experienced speaker at a representative rate. These original readings were recorded, compressed in time by selected amounts, and presented to groups of subjects. Comprehension of factual details was tested. The technique for compression was automatic and operated upon the original recording only in the time dimension (*1*), so that the various versions of the message differed in total listening time or, reciprocally, in listening rate. Variation of comprehension was significant.

It was found that listeners could tolerate substantial amounts of compression before reduction of comprehension became excessive. For example, subjects who heard the messages with 50% compression at a rate of 282 words per minute yielded a mean score which was approximately 90% of that for subjects who heard the original versions at 141 wpm. If the amount of comprehension of a double-rate message adequately satisfied the requirements of a given communication situation, then 50% of the original message time obviously becomes available for double-rate presentation of a second message which had an original length equal to that of the first message. If it should be desired, however, to increase the comprehension of one message, the finding suggests that this might be done, without exceeding the original speaking time for the message, by means of a special arrangement; this would con-

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sist of a compressed version of the message plus reinforcing material added in some manner within the time 'saved.' It is with such a proposition that the present experiment was concerned.

Among various arrangements the case chosen for experimentation was double presentation of the complete message. The most important of the reasons for making this choice was that it was considered possible that the comprehension (not the intelligibility) of extended material presented at fast rate might be so close to ceiling at the rate in question that it might not be susceptible to improvement by additional stimulation at fast rate. Another factor in selection was that complete verbatim repetition of a recording avoids all questions of content and speaking effectiveness, while use of the complete message as the unit of repetition is a limiting case of 'dovetailed' repetition versions (*e.g.*, word - word, sentence - sentence). It should also be noted that complete double presentation in this form would not be thought to be a powerful method of increasing comprehension and constitutes a strong test of the basic proposition for that reason.

Procedure

The experiment was performed in conjunction with the main investigation and the procedural details have already been described (*2*). Data were used from two of the single-presentation conditions in that investigation, namely, those involving 0 and 50% compression. Two comparable double-presentation conditions were added. For single presentation the routine was: Message A, test; Message B, test. For double presentation it was: Message A, Message A, test; Message B, Message B, test. In the latter conditions the instructions included the information that the message would be repeated and a pause of three seconds was inserted between repetitions to mark the break. Thirty-six Air Force trainees were assigned to each of the four conditions. Each main group consisted of four sub-groups of nine subjects each, representing Stanines Five through Eight and affording levels of

TABLE 1. Mean percentage correct for total groups, stanine sub-groups and MELs; single and double message presentation at 50% and 0% compression; T equals original message time; single presentation data from basic experiment (2).

	50% Compression		*0% Compression*	
	Single (*T*/2)	*Double* (*T*)	*Single* (*T*)	*Double* (2*T*)
Total	58.0	65.4	63.8	67.6
Stanine				
Five	50.2	60.6	50.6	49.3
Six	53.9	62.8	61.7	75.7
Seven	59.8	71.1	69.8	68.7
Eight	68.2	67.0	73.2	76.9
MEL				
1	69.2	78.0	79.6	78.9
2	68.5	74.1	71.3	74.5
3	53.9	62.0	60.9	66.7
4	55.8	66.2	59.5	65.5
5	42.6	46.5	47.7	52.6

listener aptitude. As in the main experiment, the tests were sub-scored for five Message Effectiveness Levels to assess the effect of message-test difficulty.

The design of the experiment envisioned an analysis of variance of the mixed factorial type, Number of Presentations by Compression by Stanine by MEL, following the pattern of the main study, although only the first two and their first-order interaction were of particular concern.

Results

Table 1 shows mean scores expressed in percentage correct. The means in the row designated *Total*, each based on the scores of 36 subjects on the 60-item test, are of main interest. The third value, that for uncompressed single presentation in a relative message time *T*, serves as a reference to which the other means may be compared. It will be observed that the effect of double presentation was in the expected direction at both compressions, and that in the two conditions where stimulus time equalled *T*, single 0% and double 50%, the latter had a small advantage.

The results of the analysis of variance were straight-forward and will not be presented in detail. The effect of number of presentations, tested with the between-subjects error, was found to be significant; *F* was 6.98, with 1 and 128 degrees of freedom. Neither compression nor the interaction of number of presentations and compression was significant. As would be expected from the basic experiment, the effects of stanine and MEL were both significant. All tests of the numerous interactions failed. Since the evidence supports and at no point controverts the general proposition advanced above, it is concluded that such a possibility for increasing auditory comprehension of a given content in a given time merits further study.

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Auditory Comprehension In Relation To Listening Rate And Selective Verbal Redundancy

Grant Fairbanks

Newman Guttman

Murray S. Miron

In a previous investigation of the effects of listening rate upon comprehension of connected speech (*3*), two long technical messages were read at 141 words per minute, recorded, and compressed instrumentally in time (*1*) by amounts which varied progressively over a suitable range. Factual comprehension, as measured by tests after presentation, was found to vary inversely and significantly with listening rate, but not linearly. At 201 and 282 wpm, corresponding to time compressions of 30 and 50%, respectively, of the original speaking time, the decrement in comprehension was small in comparison to the reduction in listening time. This suggested that the time 'saved' might be used to add reinforcing material to the compressed message within the time of the original message, and that some such arrangement might produce an increase in comprehension. Accordingly, a second experiment (*2*) was performed to explore one possibility for the use of 50% compression in this manner. Subjects heard the complete message twice in succession and the results were positive.

The present experiment was arranged to examine a less radical case, in which the extra time assumed to be available is smaller, the use thereof is selective, and the rate is within the range attainable by a skilled live speaker. The experiment was planned around the 30% versions of the messages, and that percentage of the original time was used for manipulation of message redundancy. The general idea was to regard time compres-

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sion as a reduction of 'temporal redundancy' and to trade this reduction for an increase in the 'verbal redundancy.' Specifically, the verbal additions consisted of blocks of words concentrated at selected points in the text. These blocks related to specific items of the test in a manner that will be explained. The effect of such additions upon comprehension of portions of the content which were not so augmented was also a matter of interest. It was decided to divide the items, 60 in all, into two equal groups of approximately equal message-test difficulty, or message effectiveness, in order to provide comparable sets. In addition, it was decided to confine the additions to restatements, paraphrases, etc., of the selected portions, avoiding exact repetition on the one hand and distinctly new content on the other. In short, the intention was to augment the presentations of certain facts in the message by using more words to do so, and to follow a procedure similar to that which a speaker might adopt if he were revising a speech to emphasize certain specific points which he considered important. It will be noted, however, that the additions were not confined to portions of the message at which it was least effective prior to augmentation.

TABLE 1. Words, time and rate at the four experimental conditions relative to the uncompressed original message; long version contains short version plus inserted blocks of content

	Short Version	*Long Version*
0% Compression		
Words	1.0	1.43
Time	1.0	1.43
Rate	1.0	1.0
30% Compression		
Words	1.0	1.43
Time	.7	1.0
Rate	1.43	1.43

Procedure

The general plan for the stimulus materials is shown in Table 1. The augmented version of the message (*long version*) contained the complete, unaltered, original message (*short version*), and expanded both the words and the time of the latter by 43%. The message time of the long version when compressed by 30% equalled that of the uncompressed short version. From Table 1 it will be seen that the latter differed from the uncompressed long version in words and time, but not in rate; that it differed from the compressed short version in time and rate, but not in words; that it differed from the compressed long version in words and rate, but not in time.

In preparing the long version it was decided, as has been mentioned, to augment the content corresponding to 30 of the 60 items in the combined test of the two messages. These will be termed *experimental* items; the remainder, identical in both versions, will be termed *control* items. Equal numbers of both types were selected from both messages. The two sets of items were approximately matched by pairing and both were representative of the range of response. Each of the five Message Effectiveness Levels, as defined by the basic experiment (*3*), contributed six items to each set. Data from the uncompressed condition of the basic experiment were sub-scored for the 30 experimental and 30 control items; the respective means were 18.03 and 20.25 items correct per subject. Corresponding means for the

test-only condition (test administered, but no message presented) were 5.43 and 6.99, so that the respective differences, estimates of message effectiveness, were 12.60 and 13.26. In order to compare the sets of items with respect to degree of association between test items and content, the uncompressed message-test and test-only conditions were intercorrelated separately, using items as N and number of correct responses as the measure. The obtained coefficients were low and approximately equal; .23 and .22 for experimental and control items, respectively.

An attempt was made to compare the relative number of words devoted to the experimental and control content in the two versions. In general, this involved identifying the content which supported each item. Study of the problem revealed that item density was so high and relatively constant that virtually none of the message could be said to be unrelated to the test. Since all items were factual, however, the location of the specific content corresponding to each could be readily determined, and afforded a basis for comparison of experimental and control items on the assumption that the remainder of the text supported the two sets of items equally. The specific content was defined as the minimum continuous portion of the text consisting of whole sentences which, if isolated, would supply the correct answer to the test item, subject to the qualification that said portion include the antecedent of any pronoun. The mean lengths of these specific content sections for the experimental and control items were 29 and 26 words, respectively. Four pairs of experimental and control items overlapped by a total of 95 words. For purposes of assessing the division of the total messages between the two sets of items, this overlap was equally divided, as was the remainder of the text outside the specific content sections. The 3127 words of the two basic messages thus were estimated to be divided 1625 and 1502, 52 and 48%, between the experimental and control content, respectively, or with mean amounts of 54 and 50 words per item. The subjective impressions were that the latter values are good approximations to the general length of the content supporting comprehension of the average item, and to the difference between experimental and control items.

In preparing the long version, the augmentation of the short version by 43% amounted to adding 1358 words, or 45 words per experimental item. The total addition was satisfied exactly, as were the different 43% additions to the two messages required by their slightly different lengths. No attempt was made to equate the lengths of the augmentations of specific experimental items, which ranged from 25 to 64 words, although minor adjustments were made to satisfy the total requirements. The 4485 words of the long version were estimated as dividing 2754 and 1731, or 61 and 39%, between experimental and control content. Thus, the long version provided 92 and 58 mean words per experimental and control item, respectively, in comparison to the 54 and 50 words in the short version. For these estimates the augmentations were regarded as adding only to the experimental content, except in the instances of overlap mentioned above, where equal division again was practiced.

Each of the 30 augmentations was a section of content designed to be inserted as a block into the short

version and fit smoothly into the text. The location of each was immediately after the basic content section for the item in question defined as described above. Twenty-three augmentations consisted of two sentences, six of three, and one of one. The general orientation during preparation of each augmentation was to increase comprehension as much as possible by a brief addition which included at least one paraphrase or restatement of the content, but which in no case involved complete repetition of the wording of either content section or test item. It is to be stressed that each augmentation was viewed as a natural-sounding portion of the long message which did not signal its existence in any particular way. The intention, in other words, was to produce a resultant which also could be regarded as a reference message, in comparison to which the original message was a briefer version from which 30 redundant blocks of content had been excised.

The augmentations were prepared in spoken form by having them recorded separately and splicing them into the original recordings. This procedure was considered more likely to provide good experimental control than the other two possibilities, namely, having the long version recorded and either excising the augmentations to produce a new original, or comparing it to the independently recorded original. With the complete augmented text before him, the speaker listened repeatedly to his original recording before and after the point of insertion, re-reading the original in concert in an attempt to duplicate his previously used rate, intonation, etc., and then read the augmentation. The recorded augmentation was immediately cued in with the original, played, monitored, and either accepted or rejected. The 30 augmentations were then spliced into the original and the transitions judged in the continuous message. Certain augmentations were re-recorded, substituted and checked again. Finally, minor adjustments of the total durations were made to meet the requirements mentioned above. These involved only a few seconds altogether and were readily distributed through the pauses at points of insertion.

Given the long version in recorded form, the procedure followed in all respects that previously described (*3*). All subjects were trainees at Chanute Air Force Base and technical aptitude (Stanine level) was equalized between groups. Presentation of recordings was over a headset distribution system of excellent quality in a conventional classroom. Each message was followed immediately by its test, time for the latter not being limited.

Two separate experiments were performed. For reasons that will be explained, the first experiment was not considered to be unequivocal. A second experiment was carried out under improved conditions and its results analyzed.

Results

First Experiment. The original plan was to administer the long version under the same conditions as previously used in the basic experiment with the short version (*3*), and to incorporate data from the two experiments into a single analysis. In addition to 0 and 30% compression conditions, which were the basis for construction of the long version, a 50% condition was added as a matter of interest, for a total of six conditions.

TABLE 2. Mean number of items correct under six experimental conditions; independent groups of 36 subjects; data for short version from basic experiment (3).

	Short Version	*Long Version*
0% Compression		
Experimental	18.03	21.53
Control	20.25	17.69
Total	38.28	39.22
30% Compression		
Experimental	16.94	21.67
Control	18.94	18.14
Total	35.89	39.81
50% Compression		
Experimental	16.81	18.09
Control	18.00	15.17
Total	34.81	33.26

Unfortunately for this economical plan, the weather which prevailed on the days of the experiment happened to be unusually hot and humid, extremely uncomfortable for the subjects in contrast to the favorable conditions for the first experiment.

Table 2 shows the means for the six conditions, each sub-test being based on 30 items. If the four sub-test means within each of the three compression conditions are examined, it will be observed that the highest value is invariably that for the experimental content in the long version, as would be expected. When the three pairs of means for control content are compared, the value is lower in the long version in all cases, but it was felt that this reduction might be a reflection of the uncomfortable conditions under which the long version was presented and that it could not be attributed confidently to the stimulus materials. The impression that discomfort might have confounded the experiment was reinforced by the fact that the experimenters had expected a net increase in response to the long version, since they considered that the augmentations had improved the original message.

Several other explanations were advanced, among them the possibility that augmentation had reduced the message-test reliability. For the uncompressed short version the Kuder-Richardson reliability coefficient was .87, as previously reported (*3*). For the 0, 30 and 50% compressions of the long version, coefficients derived from the new data were .87, .82 and .90, respectively, which seemed to be satisfactory. Consideration was also given to the possibility that relative item difficulty had been upset by the augmentations. Since no attempt had been made to insure augmentations that were equally effective, this would be likely for the experimental items, but whether or not it would also be true of the control items was the issue. The intercorrelation of response (subjects correct) to the control items in the short and long versions, essentially an estimate of item reliability, was .81; for the experimental items it was .73. All in all, it seemed advisable to repeat the experiment under conditions that would permit more confident interpretation.

Second Experiment. The new plan involved only four stimulus conditions, namely, the short and long versions each at 0 and at 30% compression; it was decided to eliminate 50% conditions on the grounds that the 30% conditions seemed adequately representative. All subjects were drawn from Stanine Seven, independent groups of 38 each being assigned at random to the four conditions. A single message order was used exclusively. Experimental sessions with sub-groups were distributed at various hours over three days, essentially

TABLE 3. Mean number of items correct and mean message effectiveness (see text) for 30 experimental, 30 control and 60 total items under four experimental conditions; four independent groups of 38 subjects each.

	Mean Items Correct		*Mean Message Effectiveness*	
	Short Version	*Long Version*	*Short Version*	*Long Version*
0% Compression				
Experimental	19.00	21.21	14.00	16.21
Control	20.37	17.32	13.10	10.05
Total	39.37	38.53	27.10	26.26
30% Compression				
Experimental	18.42	20.16	13.42	15.16
Control	19.21	16.53	11.94	9.26
Total	37.63	36.69	25.36	24.42

counterbalancing the conditions. Environment was good throughout.

The means are presented in the left section of Table 3 and comparison with the data of Table 2 will show that the two experiments yielded results that were essentially identical, namely, small differences between total means for the four stimulus conditions and consistent interaction within compression as described above. Apparently the misgivings about the effects of weather upon the first experiment had not been warranted, but the confirmation is reassuring.

The first step in analysis was to consider the variance of total response in the four main conditions. Analysis corresponded to the double-entry arrangement of Table 1 and tested the effects of message version, compression, and version-by-compression interaction against the within-groups error with 148 degrees of freedom. All three tests failed by wide margins. Interpretation of this finding is approached with suitable diffidence, but confidence is increased by the extreme care which characterized the procedure, the high reliability of measurement, and the significant internal responses which are discussed below. With mean total response approximately constant across the four

TABLE 4. Summary of analyses of variance at two compression levels; Version, Type of Item.

		0% Compression		*30% Compression*	
	df	*ms*	*F*	*ms*	*F*
Between Subjects					
Version (V)	1	6.73		8.52	
Error (b)	74	27.43		36.12	
Within Subjects					
Type of Item (I)	1	63.18	13.59*	79.60	14.11*
V x I	1	257.93	55.47*	260.79	46.24*
Error (w)	74	4.65		5.64	
Total	151				

*<.001

conditions, the variation in efficiency is remarkable. For example, in the extreme case, the uncompressed presentation of the long version utilized 43% more words and 104% more time than the short version displayed with 30% compression.

An analysis of the version by type of item interaction appeared to be an appropriate test of the significance of the observed internal variations, and it was considered sufficient to handle the two compression levels in parallel as separate problems. The results are summarized in Table 4. Both interaction *F*s are large and significant beyond the 0.1% level, and the *F* for type of items is likewise significant at both compressions. Attention was then directed to the differences between the specific sub-test means within compression level shown in the left section of Table 3, which were tested by *t*. Since the two values for type of items within a given version were based upon the same 38 subjects, the within-subjects errors of Table 4 were used for the experimental-control differences; conventional *t*s were computed for the four between-versions-within-items differences, each derived from two groups of 38 subjects each.

Within the short version, the difference between the experimental and control content in favor of the latter, obtained for both presentations, confirms the difference already mentioned above in the description of the procedure. At 0% compression it was found to be significant at the 1% level, but failed to meet the 5% requirement at 30% compression. The reversed and larger differences between experimental and control content in the long version are significant beyond the 0.1% level at both values of compression.

For the experimental content the increase from short to long version is significant at the 1% level with uncompressed presentation, at the 5% level with 30% compression. The decrease for the control content is significant beyond the 0.1% level at both compressions. In terms of number of correct responses to items in the long version in comparison to the short version, 21 of the 30 experimental items increased, while 23 of the 30 control items decreased. Therefore, it may be asserted with considerable confidence that augmentation of the experimental content sharply differentiated it from the control content, but that the differentiation took the form of an absolute sum of positive and negative changes, respectively, of approximately equal amounts.

Special interest attaches to the lower relative response to the control content. It has been noted above that the experimental and control items were not exactly matched, according to scores in the basic experiment and in estimated words per item in the text. The data from the basic experiment were re-examined and 15 carefully matched pairs of experimental and control items extracted, three from each Message Effectiveness Level. The respective mean scores were 2.97 and 2.91 items correct in the test-only condition, 9.54 and 9.56 in the uncompressed original condition, and the mean numbers of words in specific content sections of the text were 31.7 and 30.4. The comparable long version was that administered to the 36 subjects across four stanines in the first experiment; there the scores were 10.67 and 8.03. In the same condition the remaining 15 experimental and control pairs, less exactly matched,

with means of 8.49 and 10.69 for the short version, yielded means of 10.86 and 9.66, respectively.

The results for the control content were also studied for possible differential effects related to relative message effectiveness, or message-test difficulty. The inter-correlation of response to control items in the uncompressed short and long versions was repeated with the new data for the second experiment; the coefficient was .86. The scatter was inspected and various sub-sets formed according to scores in both versions with uniformly negative results. For example, the 15 highest ranking control items in the short version yielded a mean score per subject of 12.45 in comparison to 7.92 for the lowest 15 items. The same two sets of items incurred respective mean reductions of 1.45 and 1.60 in the long version. This unselectivity with respect to message-test difficulty suggests that the potent factor in reduction of response was relative verbal redundancy, a possibility that should be studied in a future experiment. Various other sub-sets of control items were formed according to location within message, length in words, proximity to experimental items, etc., likewise with no positive indication. The depressed score for the control content in the long version appears to have been a fairly uniform effect across the items.

In the long version the difference between response to experimental and control content was in the same direction as the difference in quantity of the content, as has been observed. The design of the experiment assumed that the experimental and control content would be approximately equal in the short version, and it was noted above that the word count showed this division to have been approximately realized; that is, the estimate for experimental content was 52%. If the experimental content of the short version had been exactly 50%, and if all augmentation, 43% of the total short version, had been added to it exclusively, the experimental content would have constituted 65% of the long version. The word count showed that 61% is probably a closer estimate, as also has been stated.

The mean scores were converted to estimated message effectiveness by subtraction of the means for the Stanine Seven subjects in the test-only condition of the basic experiment, following previous procedures (*3*). These means were 5.00, 7.27 and 12.27 for experimental, control and total items, respectively. The converted means are shown in the right section of Table 3. Calculation will show that the experimental component was 62% of the total message effectiveness in the long version at both compressions. Similarly, for the first experiment, with data based on Stanines Five through Eight, the corresponding test-only means are 5.43, 6.99 and 12.42. For the long version at 0, 30 and 50% compression (Table 2) the experimental components were 60, 59 and 61%, respectively, of the totals. Reciprocally, prediction of the experimental component as 61% (the estimated percentage of experimental words) of the total message effectiveness for the five conditions in the first and second experiments yielded a maximum difference of .47 item from the obtained mean. Since five independent groups were involved, the compactness of the percentages and predictions is provocative.

It is interesting that substantial, selective increases in redundancy, which increased response to the selected portions of the message, were

accompanied by decreased response to other portions and by no change in the total response. The present study was not designed to explain this finding, although a few speculations may be useful. First, however, there is the possibility that some unintended factor, or combination of factors, in the experimental materials and situation placed a ceiling on response which was approached by both the short and the long versions of the message. Such factors might reside in the verbal message, acoustic message, instructions, test, environmental conditions, length of stimulus period in time or words, characteristics of subjects, etc. This explanation seems unlikely. In a long and careful scrutiny of the experimental details and results, no basis for a ceiling effect could be discerned. On the other hand, there is positive evidence of significant sensitivity of response to variations of the stimulus, from the previous experiments which used the short version and the same test (*2, 3*), and also from the exploratory work during preparation of materials, in which sensitivity of the test was one criterion.

If the experiment may be assumed to have been satisfactory from the above point of view, considerable interest attaches to the fact that, although the long version was not a 'better' message than the short version in the experimental situation, it read and sounded as if it were, as was stated earlier. That impression was distinct, was formed prior to the experiment, and was confirmed by critics other than the experimenters. The suggestion is strong that it was based largely upon improved ease of comprehension of the facts in the redundant experimental content. It may be, then, that the redundancy of the experimental content during display of the long version invited a degree of listener participation in the communication act which was inappropriate to the more terse control content, *i.e.*, behavior analogous to an elevation of threshold. Although standardized instructions were used in all conditions, it is worth noting that subjects were allowed to seek their own levels of effort. Cooperation was generally excellent, but no special motivation was attempted, and it is possible that the long version commanded less effort than the short version by virtue of the stimulus itself. Along the same general line of reasoning, it may be that listeners come through experience to associate redundancy with importance, and that the relative redundancies of the two sets of content items operated as signals in the long version. A different possibility is that the response to the experimental portions of the long version actively inhibited the response to the control portions in a conventional sense. In this regard it should be observed that item density was high in the message, one sampled fact per 75 words, or about two facts per minute with no compression, and that the relationships between consecutive blocks of content were typical of those found in coherent messages.

The realism of the experimental situation is believed to justify an observation regarding application to live situations. Although the findings do not permit a sure explanation of the mechanisms, they imply that the common practice of singling out certain points in a speech for redundant treatment may be effective at such points, but that its accompaniment may be an absolute, as well as a relative reduction of effectiveness at other points.

Summary

A recorded technical message, read at 141 wpm, together with an accompanying test of factual comprehension, were available from a previous experiment, which furnished data used to construct a selectively augmented version of the message. The 60 test items were divided into matched pairs according to message-test difficulty, and the pairs split to yield two approximately equal sets. For one set the corresponding content of the message (control content) remained unaltered. For the other set the content relating to each item (experimental content) was augmented by a smoothly continuous, non-repetitive restatement of the sampled fact which was inserted as a block into the basic text. The augmented version was prepared in recorded form by splicing recordings of the augmentations, read at 141 wpm with suitable vocal continuity by the original speaker, into a copy of the original recorded message, so that the resulting long version contained the short version. By design, the recorded augmentations, which represented a total addition of 43% to the short version in both number of words and message time, constituted 30% of the words and time of the long version. Both recorded versions then were subjected to 30% automatic time compression with rate increasing to 201 wpm, for a total of four recordings, two versions times two compressions of 0 and 30%. In comparison to the uncompressed short version, the compressed long version presented 43% more words in no greater time.

The experiment consisted of presentation of the four recordings to independent groups of subjects, and analysis of test results in relation to version, compression, and type of item. Because of uncertainty about the environment at the time of first performance the experiment was repeated with improved control; the results of the two experiments differed in no essential way. Appropriate analyses of variance were performed with data from the second experiment.

No evidence of significant variation in the total responses to the four different recordings was found, but the experimental and control components of the response changed significantly from version to version within rate. Augmentation of the experimental content resulted in a significant increase in response which was accompanied by an approximately equal, unselective, significant decrease in response to the control content. Such internal changes obtained equally at both messages rates, and their relative amounts corresponded closely to the changes in the proportions of the number of words in the two sections of the content.

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Obsessive-Compulsive Reactions In Stutterers

Oliver Bloodstein

Lois R. Schreiber

This study was concerned with objective signs of obsessive-compulsive character structure in stories told by stutterers in response to three pictures of the Thematic Apperception Test (*10*). Its primary purpose was to check a current psychoanalytic hypothesis about stuttering.

Psychoanalysts have tended to regard the stuttering block first, as a form of oral or anal eroticism and second, as the stutterer's guilty effort to hold in check his repressed hostile impulses (*1, 4, 5, 16*). To give these ideas their proper setting it should be recalled that neurotic personality disorders are believed by psychoanalysts to have their origin in unresolved conflicts of childhood and infancy. According to certain psychoanalytic concepts of personality, everyone to some extent, and the neurotic person to a very large extent, reveals in crucial aspects of his behavior a disguised persistence of infantile desires, fears, and preoccupations.

But precisely what are the major objects and concerns of infancy? Father and mother, eating and eliminating, socialization and self-assertion are a few of the more obvious ones. The implication is that the relationships with others and the adjustments adults make to their environment are somewhat complicated by forgotten feelings about nursing, eliminating, mother, toilet training and the like. In the neurotic individual such feelings may become powerful instigators of abnormal behavior.

Followers of Freud recognize two stages in the emotional life of the infant, the oral and the anal-sadistic. In the oral phase, the infant's sensual needs and satisfactions are held to be focused by the vital act of sucking on the region of the mouth, although his whole body is capable of a generalized erotic response to stimulation. It is a phase marked by a brief but complete identification with the mother.

In the anal-sadistic phase these interests are considered to give way to a great preoccupation with the pleasures, consequences, and implications of elimination. The anal-sadistic period is also one of developing self-assertion and aggressiveness during which the child learns to experience and to cope with feelings of hostility toward his parents with whom he has begun to vie for some of their extraordinary power.

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According to Freudian theory, the course of events in the anal-sadistic phase is likely to determine how the child will later react to his hostile impulses. It is certain, however, that he will never again so openly express either his helplessness or his anger. Both are modified or repressed as they come into conflict with cultural taboos and rules of conduct. The same socialization process helps to transform his oral and anal erotic needs into normal adult forms of sexuality.

This is what is said to happen to the ordinary person. In some instances, however, the conflicts which arise over the renunciation of infantile gratifications are extremely violent. Perhaps these needs were too great or the deprivation too soon or too harsh; the reasons may be numerous and complex. The conflicts, at any rate, are never fully resolved. In adulthood the individual harbors unconscious oral or anal-sadistic impulses of such intensity that they continually threaten to come to light, and even under the weight of powerful repression they reveal themselves in disguised forms as abnormal character traits or neurotic symptoms. It is among such symptoms that, according to psychoanalytic theory, stuttering is sometimes to be found.

From this standpoint stuttering may perform several functions. It may satisfy a repressed need for erotic oral activity. It may also provide anal gratification, symbolizing the erotic retention and expulsion of feces. To many psychoanalysts its most important meaning is in relation to the strong latent hostility which the stutterer is thought to have. Language tends to acquire some aggressive significance in a culture which permits hostile feelings to be 'let out' chiefly through scoldings, threats and insults, and the stutterer is likely to regard the act of speaking as a direct anal-sadistic aggression against the listener. But the thought of being openly hostile fills him with anxiety. He finds himself in conflict between the conscious wish to speak and the unconscious wish to keep from speaking. The result is blockage. As Fenichel (*4*) puts it, 'Words can kill, and stutterers are persons who unconsciously think it necessary to use so dangerous a weapon with care.'

This, reduced to minimum essentials, is the psychoanalytic theory of stuttering as it is very often stated. How is it to be evaluated? At least one of its implications would seem to be subject to verification without extraordinary difficulty. When strong anal-sadistic needs are carried into adulthood an expected consequence is an obsessive-compulsive character structure, in more extreme cases an obsessive-compulsive neurosis (*4*). This means that the adult stutterer, by and large, might be expected to be excessively frugal, meticulous, orderly and pedantic, to be troubled by persistent doubts and indecisions and to have a towering conscience. He would also be likely to have an inordinate amount of repressed hostility, and though outwardly agreeable, he might unconsciously find covert outlets for the aggressive feelings which he could not express openly.

There is little evidence of such traits among stutterers. The stutterer's emotional adjustment has been thoroughly investigated by means of a variety of personality tests in studies too numerous and diverse in purpose to cite in detail.[1] A rather large amount of disagreement is to be found in the results

[1] A review of this research has been provided by W. Grant Dahlstrom (*2*).

of these studies. Nevertheless, in the writers' opinion it is possible by now to draw certain fairly reliable conclusions. First, stutterers as a group are in all probability somewhat less well adjusted than non-stutterers as a group, a fact which is, of course, open to various interpretations. Second, the better adjusted stutterers are almost certainly more stable and emotionally mature than the more poorly adjusted of a typical group of non-stutterers. Third, the average stutterer does not appear to be a psychoneurotic individual in the usual clinical sense of the term. That is, the stutterer does not typically seem to fit the picture of any of the known categories of neurosis as these are currently described, nor, on the average, does he seem to exhibit a severity of emotional disturbance which would justify such a diagnosis. Fourth, there is as yet no clear-cut evidence to show that the majority of stutterers possess a special character structure, personality 'type,' or pattern of personal traits.

It is to be emphasized that few of the studies upon which these conclusions are based were concerned specifically or directly with psychoanalytic hypotheses about stuttering. A notable exception to this was a recent series of studies (*8*, *11*, *12*) employing the Rosenzweig Picture-Frustration Test. These alternately upheld and cast doubt upon psychoanalytic suppositions about the covert manner in which the stutterer expresses hostility. Krugman (*6*), in a Rorschach study of stutterers, found that an outstanding characteristic was their 'obsessive-compulsive make-up,' but other Rorschach studies in which stutterers have been compared with normal speakers (*9*, *14*, *15*) have been quite inconsistent in their findings. Dickson (*3*), employing the Blacky Test, found that more stutterers than non-stutterers had scores considered to be indicative of anal-sadistic fixation.

In the present study the attempt to verify psychoanalytic concepts of stuttering was based on the Thematic Apperception Test (TAT), a projective technique for personality study consisting of a series of pictures about which the subject is asked to make up stories. The study was limited to a few specific features of the subjects' productions which Rapaport (*13*) describes as diagnostic signs of obsessiveness-compulsiveness:

> The obsessive-compulsive indications are of several varieties and of differing degrees of malignancy. On the compulsive side, they include circumstantiality in describing the picture, circumstantiality becoming peculiar and even queer, compulsive rigidity seen in dissatisfaction with parts or aspects of the picture which 'do not fit together'; on the obsessive side, they include excessive intellectualizing, too many interpretation possibilities coming into consciousness, doubt, awareness of one's own thought processes, pedantry, essays embedded in the narrative, etc.

Rapaport expands this statement by means of explanations and illustrations from which it is possible to derive about a dozen relatively specific and concrete attributes of the stories of obsessive-compulsive individuals.

Procedure

The subjects were 15 stutterers and 15 non-stutterers. Both groups ranged from 17 to 24 years of age with a median of 18; both groups consisted of 13 males and two females. All subjects were liberal arts students at Brooklyn College. Cards 2, 5 and 10 of the Harvard University Press edition of the TAT were administered to each subject by one of the experi-

menters and the stories were recorded verbatim. Each subject's total output was then evaluated and scored independently by three judges using a check list of items based on Rapaport's description of obsessive-compulsive indicators. The judges consisted of the present writers plus one additional person.

In each case two of the three judges had no clue to the identity of the subject as a stutterer or non-stutterer. Prior to the scoring of the stories the judges familiarized themselves with Rapaport's criteria and studied his illustrations. In addition, scoring standards were discussed in an effort to agree as far as possible on the meaning of key words in the check list items.

It should be noted that none of the three judges could be considered skilled in the interpretation of the TAT. For this reason some emphasis must be given to the fact that the judges were not required to make psychological diagnoses. They were given as their raw material nothing less tangible and commonplace than certain recorded utterances of a group of subjects. Insofar as they were asked to exercise a judgment it was simply about the applicability to these utterances of certain rather ordinary descriptive terms, and it was assumed only that they had roughly the same understanding of these terms that Rapaport had. The judges were not attempting, so to speak, to identify the disease. They were merely reporting on the location, quantity, size, shape and color of the spots.

In determining a subject's score the judge recorded one point for every instance in which the stories appeared to exhibit each of the following: (1) concern with unessential detail, (2) peculiar circumstantiality, (3) suggestion of an alternative intepretation of the picture or one of its features, (4) expression of doubt or uncertainty about an interpretation, (5) reference to controversial scientific, aesthetic, political, or philosophical matters, (6) incorrect or ostentatious use of imposing words, (7) psychological pseudo-insight into the feelings, motivations, or behavior of the characters, (8) reference to the intelligence of characters or the 'culturedness' of settings, (9) reference to the subject's own thought processes, (10) criticism of the picture, (11) free-association-like ideas, and (12) pedantic adherence to prescribed forms. In addition, because pedantic use of language may sometimes appear to be a relatively subtle and pervasive quality, the judges were permitted to add a point for 'overall pedantry.'

When the evaluation of the stories was completed, the scores of each judge were correlated with those of the others by the method of rank differences. The coefficients obtained were .72, .74 and .93. The two judges represented by the last coefficient are a married couple. Its very large size apparently reflects the greater opportunity these judges had for preliminary discussion of the scoring standards, as well as the frequently observed similarity of husbands and wives in matters of attitude and opinion. The smaller coefficients probably must be regarded as more representative measures of agreement on these scoring standards. While the amount of agreement which they signified was not high, it appeared to warrant at least a guarded interest in the findings.

Results

The two groups appear to have made up essentially similar stories

TABLE 1. Analysis of variance of 'obsessiveness-compulsiveness' scores given by three judges to 15 stutterers and 15 non-stutterers on the basis of Thematic Apperception Test stories.

Source of Variation	*df*	*ss*	*ms*	*F*
Between-Subjects	29	1710.46		
Groups (G)	1	15.22	15.22	<1*
error (b)	28	1695.24	60.54	
Within-Subjects	60	224.00		
Judges (J)	2	2.03	1.02	<1
G × J	2	16.14	8.07	2.19†
error (w)	56	205.83	3.68	
Total	89	1934.46		

*$F = ms_G / ms_{error(b)}$

†$F = ms_{G \times J} / ms_{error\ (w)}$. $F_{.05}$ (2 and 56 df) = 3.17.

from the standpoint of the criteria which were used in evaluating them. The stutterers received a slightly higher average obsessiveness-compulsiveness score than the non-stutterers from two of the judges, and a slightly lower mean score from the third. This 'interaction' of judges and groups was not statistically significant, as shown in Table 1. Neither was there a significant overall difference in score between stutterers and non-stutterers.[2]

Because lengthy verbal productions may be an obsessive-compulsive indication (*13*), an analysis was also made of the number of words spoken by the members of each group. The stutterers proved to have a somewhat smaller average output than the non-stutterers. The difference was not significant ($t = 1.26$, 28 df).

The following are illustrative excerpts from stories of two of the stutterers. The subject who produced the first received very high obsessiveness-compulsiveness scores and the one who produced the second received relatively low scores.

Here is a drawing that can do havoc on a mind actually. It is quite intriguing and on the other hand it is simple. The intriguing aspect is that that woman—is she coming out or into the room? Who is out of the room she is looking at, or that she may be looking at? She can also be coming out of the room to call the people who are in the room to come quickly, and you can also imagine a bed with a sick person in the room that she is coming out of, and that could easily explain the calling to the individuals in the other room, sort of 'You can come in now.' Now, the other aspect could also be that here is a woman who is now in her fifties or so who is coming either out of a bathroom or a living room. Not a living room because she is walking supposedly into a living room. You can change that to a bedroom as I had said previously. She can be coming out of that room now to meet some test of hers or else to answer the doorbell. It is also hard to make out her emotional reaction.

This is a picture of a girl about 17 to 18 years. The boy is about 21 or 20. They are very much in love. She is a sophomore in college and he is about a junior or so. They have known each other for about three years and are dying to get married. He is going to school to

[2]The statistical analysis was that given by Lindquist (7) for 'mixed' factorial experiments of the type designated by him as Type I.

be an engineer and she is going for teaching or therapy or something like that. The scene takes place on a Saturday night or any night in the week. They have come from a date. They are sitting on the porch and embracing and dreaming of the time they can get married. The boy wants to finish school very badly because he is brilliant, and the girl wants to finish school also, and this means another two or three years' wait, for they are of average means and he could not possibly support her if they got married now . . .

Discussion

The findings of this study need to be carefully verified by further research on obsessive-compulsive traits in stutterers. Rapaport's diagnostic criteria were chosen for use in this study partly because the vocabulary of these criteria seemed to consist entirely of common, non-technical words in their conventional meanings. It was assumed that if the criteria had meaning at all they could be correctly applied in a relatively objective manner by educated persons without special training in psychological diagnosis. Perhaps not everyone would be disposed to accept this assumption. If it is true, and if the diagnostic indicators are valid, the results suggest that college stutterers are no more obsessive-compulsive as a group than are other college students.

This is not to say, of course, that some stutterers are not abnormally obsessive - compulsive in personality make-up. Furthermore, it is possible that such individuals tend to experience more marked reactions to speech interruption, that they exercise more extreme cautions, that their efforts tend to be more strenuous and their avoidance devices more elaborate and therefore more conspicuous, and that they consequently tend to become more severe stutterers, on the whole. This is far from concluding, however, that the stuttering symptoms reflect unconscious guilt feelings about hostility or symbolize anal-sadistic gratifications. Such a conclusion would seem to require more uniform evidence of obsessive - compulsive tendencies in stutterers than has yet been found.

Summary

Stories were elicited from 15 stutterers and 15 non-stutterers in response to three Thematic Apperception Test pictures. The verbal production of each subject was scored independently by three judges on the basis of a check list derived from Rapaport's description (*13*) of obsessive-compulsive indications on the TAT. The stutterers' obsessive-compulsive tendencies as measured in this way did not differ significantly from those of the non-stutterers.

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Stutterers' And Non-Stutterers' Reactions To Speech Situations

William D. Trotter

Margaret F. Bergmann

The Speech Situation Rating Sheet for Stutterers developed by Johnson in 1943 has been shown (*1, 2*) to be useful in evaluating the seriousness of a stutterer's problem. This rating sheet lists forty speaking situations which the stutterer is asked to evaluate in terms of four different five-point rating scales. The scales are concerned with (1) tendency to avoid a situation (Avoidance scale); (2) degree of enjoyment derived from speaking in a situation (Reaction scale); (3) amount of stuttering in a situation (Stuttering scale); and (4) frequency with which a situation is met (Frequency scale). The test is scored by averaging an individual stutterer's ratings for all forty situations and comparing them to a set of percentile ranks established by Shumak (*3*) on a group of ninety-five male stutterers whose mean age was 22 years. Thus, if a stutterer's ratings average 3.68, 3.82, 3.84 and 4.1 on the Avoidance, Reaction, Stuttering, and Frequency scales, respectively, it would indicate that he avoids more of the forty speaking situations, enjoys speaking in them less, stutters more frequently in them, and meets them less often than 75 per cent of Shumak's stutterers.

While Shumak's data are useful for the purpose of comparing a stutterer's scores on the rating sheet with those of a group of stutterers, previously it has not been possible to compare his scores with data obtained from a group of non-stutterers. Such a comparison would be useful in determining the 'normality' of the stutterer's scores. The main purpose of the present study was to obtain information concerning non-stutterers' reactions to the Speech Situation Rating Sheet for Stutterers. An additional purpose of the study was to make a comparison between the reactions of non-stutterers and stutterers to this rating sheet.

Procedure

One hundred members of a summer school class in educational psychology completed a modified version of the Speech Situation Rating Sheet for Stutterers (*1, 3*). For the purpose of this experiment, the Stuttering scale

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TABLE 1. Values for 25th, 50th, and 75th, percentiles obtained for each of the three modes of response to a speech situation rating sheet for a group of stutterers (S) and a group of non-stutterers (NS). The data for stutterers are taken from Shumak (3).

Mode of response	*25th Percentile*		*50th Percentile*		*75th Percentile*	
	S	*NS*	*S*	*NS*	*S*	*NS*
Avoidance	1.82	1.21	2.20	1.45	2.80	1.77
Reaction	2.10	1.59	2.56	1.83	2.97	2.17
Frequency	3.48	3.79	3.88	4.05	4.11	4.25

('amount of stuttering in a situation') was changed to a Non-Fluency scale ('amount of non-fluency in a situation'). The average age of the subjects was 29. Fifty of the group were male and fifty were female. Sixty-eight of the subjects were full-time grade or high school teachers.

Since Shumak's (*3*) data are not in a form that would permit certain desired comparisons between the stutterers and non-stutterers, the original form of the Speech Situation Rating Sheet for Stutterers was administered to an additional group of 50 stutterers at the beginning of their therapy program. Forty-one of the group were male and 9 female. The mean age was 22 years. This group was called the Bergmann stutterers to distinguish them from Shumak's group.

TABLE 2. Correlations among the four scales of a speech situation rating sheet for 100 non-stutterers.

	Reaction	*Non-Fluency*	*Frequency*
Avoidance	.96*	.94*	.25†
Reaction		.57*	−.02
Non-Fluency			.08

*Significant beyond the one per cent level of confidence.

†Significant beyond the five per cent level of confidence.

Results and Discussion

Percentiles. For each of the non-stutterers a score was calculated for each of the three scales of Avoidance, Reaction, and Frequency by averaging the ratings given to each of the forty speaking situations. Values for 25th, 50th and 75th percentiles for these three scales are given in Table 1 along with the percentiles reported by Shumak (*3*). The Non-Fluency scale used by the non-stutterers and the Stuttering scale used by the stutterers are not comparable with each other. A speech clinician who uses the rating sheet[1] in her work with stutterers can compare an individual stutterer's scores on the Avoidance, Reaction, and Frequency scales with those of the group of stutterers (Shumak) and the group of non-stutterers upon which these percentiles are based.

Correlations Between Scales. Pearson correlation coefficients were calculated between the mean scores obtained by the non-stutterers on each of the four scales. These are given in Table 2. Three of the correlations are significant beyond the one per cent level of confidence and one is significant beyond the five per cent level. Of particular interest are the high correlations between Avoidance and Reac-

[1]This rating sheet is readily available for clinical use (*1*).

TABLE 3. Rank order of the 40 speaking situations in terms of their Avoidance scores for the 100 non-stutterers (NS) and Bergmann's 50 stutterers (S).

Situation	*Rank* NS	S
Making a speech to unfamiliar audience	1	2.5
Asking instructor question in class	2	1
Making short speech (1 or 2 minutes) in familiar class	3.5	21
Dinner conversation with strangers	3.5	16.5
Telling funny story with one stranger in a crowd	5	14
Asking for a job	6	12
Introducing myself (face to face)	7	7
Short class recitation (10 words or less)	8.5	4
Talking with someone I don't know well while waiting for a bus or class, etc.	8.5	23
Talking with an instructor after class or in his office	10.5	30
Parlor games requiring speech	10.5	9.5
Participating in committee meeting	12	13
Asking girl for date (or talking to man who asks me for a date)	13	22
Reading aloud to friends	14	5
Going to house and asking for someone	15	20
Taking leave of a hostess	16	28
Taking leave of a girl (boy) after a date	17	33
Introducing one person to another	18	6
Telephoning to ask price, train fare, etc.	19.5	2.5
Talking with my barber (or beauty operator)	19.5	24
Giving my name over telephone	21	11
Asking a secretary if I can see her employer	22	19
Giving directions or information to strangers	23	18
Telephoning to make appointment, to arrange meeting place with someone	24	8
Talking with other players during a playground game	25	34
Telephoning for a taxi	26	9.5
Telling a person a message from someone else	27.5	15
Participating in a bull session	27.5	32
Long distance telephone call to someone I know	29	16.5
Conversation with father	30	36
Answering roll call in class	31	35
Asking at a desk for book, or card to be filled out, etc.	32	25
Ordering in a restaurant	34.5	26
Buying train or bus ticket	34.5	27
Saying hello to a friend going by	34.5	40
Buying stamps at post office	34.5	29
Conversation with friend while walking along the street	37	37
Conversation with my mother	38	38
Buying something from store clerk	39	31
Conversation with good friend	40	39

tion (.96) and between Avoidance and Non-Fluency (.94). These correlations suggest that those who enjoy speaking situations the least and who experience the most non-fluency in them are also the ones who avoid them the most.

Comparison of Stutterers' and Non-Stutterers' Mean Scores. A non-stutterers' mean rating was calculated for the Avoidance, Reaction, and Frequency scales by averaging all 40 situations and all 100 subjects. The mean ratings for the Avoidance, Re-

action and Frequency scales were 1.54, 1.91, and 4.01, respectively. The mean scores obtained by Shumak's (*3*) stutterers on these three scales were 2.31, 2.57, and 3.80.

The significance of the difference between the stutterers and non-stutterers' means on each of the three scales was evaluated by means of *t*-tests. The value of *t* for Avoidance is 9.60, for Reaction is 8.68, and for Frequency is 1.63. The values for Avoidance and Reaction are significant beyond the one per cent level of confidence but the value for Frequency is not significant at the five per cent level. These results indicate that, as a group, stutterers are more avoidant of and enjoy speaking less in the 40 situations of the rating sheet than non-stutterers, but do not meet the situations any more or less often than do non-stutterers.

Avoidance Scale. Although the difference between the non-stutterers and Shumak's (*3*) stutterers on the Avoidance scale is statistically significant, this does not mean that all non-stutterers are free from a tendency to avoid speaking situations. Only four of the 100 non-stutterers rated all 40 speaking situations *one* (I never avoid this situation and have no desire to avoid it); 25 per cent of Shumak's (3) stutterers had lower scores on the Avoidance scale than 32 per cent of the non-stutterers.

The degree of avoidance tendency among the non-stutterers varies from situation to situation just as it does for the stutterers. Of the 40 speaking situations, the one with the highest avoidance score was 'Giving a speech to an unfamiliar audience.' An examination of the individual non-stutterers' ratings with respect to this situation shows that 25 per cent of them gave it a rating of *five* (I avoid this situation every time I possibly can) and only 16 per cent gave it a rating of *one* (I never avoid this situation and have no desire to avoid it). This would appear to indicate a tendency for non-stutterers to experience avoidance feelings with respect to certain situations.

Since Shumak's (*3*) data are not in a form that would permit comparison of the stutterers' reactions to this situation, the Bergmann stutterers were used in this comparison. An examination of the individual ratings of the Bergmann stutterers with respect to the situation 'Giving a speech to an unfamiliar audience' shows that 48 per cent of them gave it a rating of *five* and only six per cent gave it a rating of *one*.

For both the Bergmann stutterers and the 100 non-stutterers, an avoidance score was calculated for each of the 40 speaking situations by averaging all subjects' ratings. Table 3 shows the 40 situations arranged in rank order from those that were given the highest mean avoidance rating to those that were given the lowest mean rating. An examination of this table shows that there is a rather high degree of agreement between the stutterers and the non-stutterers in their avoidance of these same situations. The rank order correlation between the two groups is .67, which is significant at the one per cent level of confidence. There does appear to be one major discrepancy between the way in which the stutterers and the non-stutterers rank the situations. All of the situations involving the telephone are ranked much higher in avoidance by the stutterers. For example, 'Telephoning to ask price, train fare, etc.' is ranked as 2nd by the stutterers and

19th by the non-stutterers; 'Telephoning to make appointment to arrange meeting place with someone' is ranked 8th by the stutterers and 24th by the non-stutterers; 'Telephoning for a taxi' is ranked 9th by the stutterers and 26th by the non-stutterers; and 'Long distance telephone call to someone I know' is ranked 16th by the stutterers and 29th by the non-stutterers.

Reaction Scale. As previously noted, there is a statistically significant difference between the stutterers' and non-stutterers' scores on the Reaction scale. This does not mean that all non-stutterers definitely enjoy speaking in all situations. Only one of the non-stutterers rated all the speaking situations *one* (I definitely enjoy speaking in this situation); 28 per cent of the non-stutterers had higher scores on this scale than 25 per cent of Shumak's (3) stutterers. The situation that the non-stutterers enjoyed the least was 'Making a speech to unfamiliar audience.' Thirty per cent of the group gave it a rating of *four* (I would rather not speak in this situation) and eight per cent gave it a rating of *five* (I very much dislike speaking in this situation). Bergmann's stutterers also ranked this same situation as the one they enjoyed speaking in the least. Eighteen per cent gave it a rating of *four* and 52 per cent gave it a rating of *five*. The value of the rank order correlation coefficient (rho) between the way the stutterers rank the speaking situations and the way the non-stutterers rank these same situations is .74, which is significant at the one per cent level of confidence. This value indicates that there is a fair amount of agreement between the two groups on the relative enjoyability of these situations.

Non-Fluency and Stuttering Scale. A rank order correlation coefficient (rho) was calculated between the way in which the non-stutterers ranked the situations in terms of amount of nonfluency and the way in which Bergmann's stutterers ranked the situations in terms of amount of stuttering. The value of rho is .56 and is significant at the one per cent level of confidence. This value indicates that non-stutterers have some tendency to be more nonfluent in the situations in which stutterers have a tendency to do their more severe stuttering.

Frequency Scale. A rho was also calculated between the way in which the non-stutterers and stutterers ranked the situations in terms of the frequency with which they were met. The value of rho is .90 and is significant at the one per cent level of confidence. This value indicates the presence of a strong tendency for both stutterers and non-stutterers to meet the various kinds of speaking situations with about the same relative frequency.

Summary

One hundred non-stuttering members of a psychology class were asked to rate 40 speaking situations in terms of four five-point scales. These scales were concerned with the following: (1) tendency to avoid a situation (Avoidance scale); (2) degree of enjoyment from speaking in a situation (Reaction scale); (3) amount of nonfluency in a situation (Non-Fluency scale); and (4) frequency with which a situation is met (Frequency scale.) For each of the non-stutterers a score was calculated for each of the three scales of Avoidance, Reaction, and Frequency. Percentiles were calcu-

lated for each of the three scales. These data now make it possible to compare an individual stutterer's score on the speech situation rating sheet of Johnson with that of a group of non-stutterers.

A comparison of the scores of the stutterers and the non-stutterers indicated the following:

1. The mean scores for the non-stutterers on the Avoidance and Reaction scales were significantly lower, indicating that non-stutterers tend to avoid speaking situations less and to enjoy speaking more than do stutterers. It was found that a considerable number of non-stutterers were more avoidant of speaking situations and enjoyed speaking in them less than many stutterers. There was no statistically significant difference between the two groups in the frequency with which they met the situations.

2. There was a very high correlation for the non-stutterers between the Avoidance and Reaction scales and between the Avoidance and Non-Fluency scales, which indicates that those non-stutterers who avoid speaking situations the most enjoy speaking in them the least and also are the most non-fluent.

3. Stutterers and non-stutterers tend to agree in a relative way in their reactions to different kinds of speaking situations; that is, those situations that are avoided the most by the non-stutterers tend to be the ones avoided the most by the stutterers, those that are enjoyed the least by the non-stutterers are enjoyed the least by the stutterers, those in which the non-stutterers are the most non-fluent are the ones in which stutterers have the most severe stuttering, and those that are met most frequently by the non-stutterers are met most frequently by the stutterers. Notable exceptions to this relative agreement about situations are those involving the use of the telephone.

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Effect Of Speech On Metabolism: A Comparison Between Stutterers And Non-Stutterers

Robert L. McCroskey, Jr.

Extensive investigations directed toward clinical and experimental tests of metabolism reveal little research related to speech. Studies comparing the basal metabolism of normal and stuttering speakers have been conducted (*4, 8, 10, 11*), but apparently no attempt has been made to investigate the energy requirements for the act of speech. Previous studies have treated metabolism under conditions of silence and rest.

The metabolic rate is a measure of total heat production over a given period of time during the postabsorptive state (basal state). DuBois (*1*) has pointed out that because of the technical difficulties of the direct method, and for the reason that 'Carbon dioxide production and oxygen consumption are accurate indices of the amount of heat produced . . .' the measurement of gaseous exchange has proved to be both practical and accurate. DuBois also states that indirect calorimetry '. . . is best accomplished by measuring the amount of oxygen utilized over a given period of time by a patient under a standard set of conditions.'

The rate of oxygen consumption will be increased by any influence that stimulates heat production, such as the digestion, absorption, and utilization of food, or engaging in exercise. When one considers the intricate muscular adjustments required to pronounce words clearly, and the sustained muscular balance necessary to the smooth production of tones, it seems possible that the act of speaking would be reflected in the speaker's metabolism. The purpose of this experiment was to study the energy cost of the act of speech and to investigate the possibility of a differential effect on the metabolism of normal and stuttered speech.

In order to assess the requirements for speech, three consecutive measures were taken on each subject on each of two separate occasions. These measures were: (1) a basal metabolic rate (BMR), (2) a speech metabolic rate (SMR), and (3) a post-speech metabolic rate (PSMR). The BMR is simply an expression of the rate at which oxygen is consumed when the body is performing no work except that required to maintain itself in a state of rest. The SMR is defined as the rate at which oxygen is consumed during speech. The PSMR is the rate

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at which oxygen is consumed during silence and rest immediately following the speech act.

In order to investigate the problem of the study, the following experimental questions were formulated:

1. Is there a difference between the Basal Metabolic Rates of stutterers and of non-stutterers?
2. Is the act of speaking accompanied by an altered metabolic rate for non-stutterers?
3. Is the act of speaking accompanied by an altered metabolic rate for stutterers?
4. Is the metabolic rate during speech different for stutterers than for non-stutterers?
5. Do stutterers who have completed a therapy program expend the same amount of energy when speaking as stutterers who are currently enrolled in therapy?
6. Is there a difference between post-therapy stutterers and normal speakers with respect to the increase in metabolic rate during speech?

Procedure

A method of indirect calorimetry was employed to arrive at a measure of heat production during a specified activity. The metabolism would have been more properly determined by direct calorimetry; however, this would have resulted in a considerable loss to the over-all efficiency of the experiment without a corresponding gain in accuracy. Langley and Cheraskin (*6*) have indicated that 'Results obtained by indirect methods agree within one per cent with the results derived by the direct method.'

Test conditions. Every effort was made to keep test conditions constant from subject to subject. All tests were administered between the hours of eight and ten o'clock in the morning, with the exception of two which were scheduled before eight. Each subject received his pre-test instructions in both a written and an oral form. These covered the conditions necessary for the subject to be in a basal state[1] when the test was given as well as giving a general statement concerning what he would be expected to do and the order of the experimental events.

Speech stimulus. The Pledge of Allegiance was used as the speech material by all subjects for the determination of the SMR. This fixed, familiar, memorized passage was selected in preference to a standard reading selection for two main reasons: (1) glasses could not be worn with the mask in position, and reading might have had both physical and psychological effects on the results; and (2) the reading act itself may involve work (*9*).

Equipment. The Benedict-Roth Metabolism Apparatus was employed in this experiment. The standard mouthpiece prohibited speech and so it was replaced with a United States Army Gas Mask (Type U MIVAI, EAE, Lot 26, C5-2-229) which was adapted to fit the regular air lines of the Benedict-Roth Apparatus. A test for possible leaks was made during each experimental session by placing a 160-gram weight[2] upon the oxygen bell.

[1]A basal state indicates that the subject has not eaten for a minimum period of 12 hours preceding the test, has had at least eight hours sleep, has maintained a state of celibacy for a period of 24 hours, has avoided food, drink, and tobacco on the morning of the test, and has arisen early enough to prevent rushing.

[2]This is approximately three times the usual weight employed. This margin of safety seemed necessary in view of the variable pressures of air flow during speech.

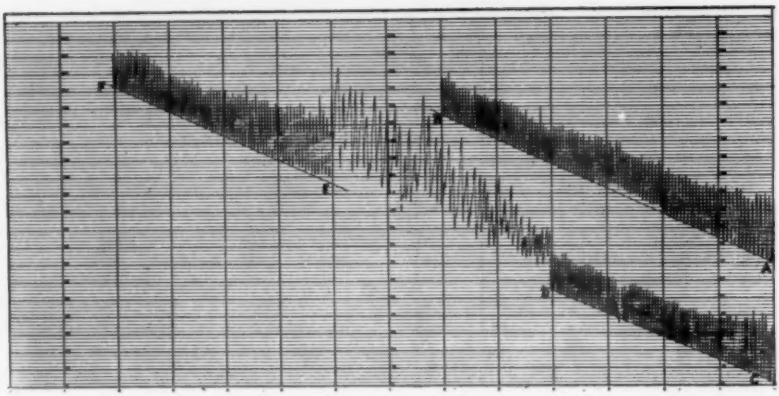

FIGURE 1. A record of the rate of oxygen consumption for a non-stuttering speaker. Line AB, pre-test record; Line CD, basal metabolic rate; Line DE, speech metabolic rate; Line EF, post-speech metabolic rate.

Any change in the slope of the record between the pre- and the post-weight conditions indicated a leak. The equipment used in obtaining measures of height, weight, body temperature, and barometric pressure remained constant throughout the experiment.

Subjects. Forty subjects participated; they were evenly divided with seventeen males and three females in each of two groups. Group One was comprised of non-stutterers; these were individuals who had always conceived of themselves as normal speakers with respect to fluency. Group Two was made up of stutterers; these people evaluated themselves as stutterers. This latter group included nine individuals who had completed[3] a therapy program and eleven persons who were currently receiving therapy. Group One had an age range from 23 to 45, with a mean of 30.5 years. Group Two had an age range from 18 to 34 years, with a mean of 21.7 years.

Specific testing procedure. When the subject arrived at the laboratory, he was asked if he was in a basal state. He was then instructed to lie down for thirty minutes. At the end of the rest period, and before the actual test began, the subject had the mask fitted over his face and began to breathe oxygen. He continued to breathe normally for a period of six minutes (see Figure 1, Line AB). The major function of this pre-test breathing was to give the experimenter an opportunity to test for oxygen leaks and to correct them if they appeared; moreover, the pre-test breathing allowed time for the subject to adapt to the situation.

At the close of the first six minutes of breathing, the kymograph drum was returned to its original starting position, the oxygen bell was filled to capacity, and the actual test was begun. The subject, still in a supine position, continued to breathe quietly and normally for a period of four

[3]'Completed' indicates that these persons had finished a therapy program, were not receiving therapy, and did not plan to enroll for therapy in the future.

minutes; it was on this portion of the breathing record that the BMR was computed (see Figure 1, Line CD). At the close of the first four-minute segment the subject was instructed to begin talking. He recited the Pledge of Allegiance continuously from his supine position during the next four-minute segment of the breathing record, and it was on this portion that the SMR was determined (see Figure 1, Line DE). At the end of the second four-minute period the subject was instructed to resume normal breathing. The PSMR was taken from this last segment (see Figure 1, Line EF).

Determining the rate of oxygen consumption. The selection of a line which is most representative of the slope of the respiratory pattern is subject to considerable error. The most properly placed line strikes the tips of the greatest possible number of respiratory excursions (see Figure 1). The point of expiration is ordinarily most suitable, for the degree of expiration is less variable than that of inspiration (5). The charts used are ruled vertically so that the time required for the pen to move from one vertical line to the next is one minute. Horizontal lines correspond to the change in position of the spirometer as the oxygen is consumed; the space between two lines corresponds to a definite caloric value. A line drawn along the points which mark each expiration permits the determination of the difference between the first and last readings. The charts employed are designed so that the difference between the first and last reading over a six-minute period will render the calories per hour for an individual. This value is then corrected for temperature and barometric pressure and reported in terms of per cent above or below the accepted normal value for individuals of the same age, size, and sex. The mean percentages obtained on two tests for each subject for the three experimental conditions were the criterion measures used in the statistical evaluation.

TABLE 1. Mean per cents and standard deviations for BMR, SMR, and PSMR of stutterers and non-stutterers.

	Non-stutterers	*Stutterers*
Mean BMR (%)	−15.12	−14.17
s. d.	5.76	14.21
Mean SMR (%)	− 3.87	+2.63
s. d.	8.43	15.97
Mean PSMR (%)	−10.69	− 8.11
s. d.	5.61	9.78

The respiratory excursions remained fairly constant during the first four-minute period (BMR) and the last four-minute period (PSMR); however, during speech there was often little regularity to the pattern and the drawing of a straight line through the points of maximum expiration became impossible. To obtain the metabolic rate during speech, it was assumed that if the speech act involved no additional oxygen requirement the line drawn for the PSMR would be an extension of the line drawn for the BMR; to the extent that the line for the PSMR was not an extension, it represented increased or decreased rate of oxygen consumption (see Figure 1).

Results and Discussion

An analysis of variance, classified by Lindquist (7) as a Type I mixed design, was the method of evaluation. The general hypothesis under test was whether the trend for the three treatment means was the same for both groups of subjects (see Table 1). Two

TABLE 2. Summary of analysis of variance: effect of speech on metabolism.

Source	*df*	*Sum of Squares*	*Mean Square*	*F*
Between Groups	39	10555.10		
G	1	336.21	336.21	1.25
error (g)	38	10218.89	268.92	
Within Groups	80	7795.06		
Treatments (T)	2	4014.87	2007.43	42.18*
TG	2	163.15	81.57	1.71
error (w)	76	3617.04	47.59	
Total	119	18350.16		

*Significant beyond the .01 level for 2 and 76 degrees of freedom. $F = \frac{ms_T}{ms_{error\ (w)}}$

aspects of this hypothesis may be studied: (1) the sub-hypothesis that the difference between the means of the two groups is the same at each treatment level, and (2) the sub-hypothesis that the difference between the successive treatment means for the two groups is equal to zero.

Neither the *F*-ratio for the interaction between treatments and groups nor the *F*-ratio for the differences between groups was significant. The *F*-ratio for testing differences among the three conditions was significant beyond the .01 per cent level (see Table 2). These data indicate that the act of speaking does result in a significant increase in metabolic rate. They also imply that the effect of speech on metabolism is the same for both groups.

TABLE 3. A comparison of SMR and BMR-SMR differences within the group of stutterers.

Treatment	*Post-therapy*	*In-therapy*	*t*
Mean SMR	−8.77	+11.96	3.59*
Mean BMR-SMR difference	+11.11	+21.46	2.17†

*Significant beyond the .01 level for 18 df.
†Significant between the .02 and .05 level for 18 df.

The apparent lack of difference between stutterers and non-stutterers may have been due in part to the fact that the former group was made up of two classes of speakers: (1) stutterers currently receiving therapy, and (2) stutterers who had completed a therapy program. The data obtained on these two classes within the stuttering group reveal: (1) a significant difference between the SMR values for post-therapy and in-therapy stutterers ($t = 3.59$, with 18 d.f.), and (2) a significant difference in the mean per cent increase in metabolism between the two classes ($t = 2.10$, with 18 d.f.). These results are summarized in Table 3. It would appear that the metabolic cost of speech in the stutterer who has completed therapy was significantly lower than for the stutterer who was in the early stages of therapy. This may indicate that it is possible to get a physiological measure of the severity of the combined overt and covert components of stuttering.

The next question was whether the BMR-SMR difference for normal speakers was significantly different

from the BMR-SMR difference of the post-therapy stutterers. The data indicated that the effect of speech on the metabolism of normals and post-therapy stutterers was essentially the same (t = .052, with 27 d.f.). This could imply that the effectiveness of a therapy program may be measured in terms of a decreased BMR-SMR difference for the stutterer.

It is generally agreed that a likely source of error in the computation of a metabolic rate by this method is in the assigning of a representative line to the slope of the breathing record. It seemed necessary that some estimate be made of the reliability of the lines drawn by this experimenter. It will be noted in Figure 1 that the longer sample of respiration may be divided into three four-minute segments. To eliminate possible sources of bias, 20 unscored metabolism records were cut into three parts, corresponding respectively to the BMR, SMR, and PSMR. These 60 segments were randomized and independently presented 10 times. At each presentation the caloric difference was observed and recorded in a separate tabulation without marking the metabolism record itself. These 600 judgments were then arranged according to the three original groupings.

The median standard deviations—determined for each of the three conditions, BMR, SMR, and PSMR—were 1.83, 1.65, and 1.37 calories. The raw score ranges were: (1) for the condition BMR, 54 to 97.5 calories; (2) for the condition SMR, 69 to 144 calories; and (3) for the condition PSMR, 63 to 109.5 calories. The magnitude of the differences is such that the experimenter's error, with respect to the drawing of representative slopes, was of an order not to influence the results.

The results of this study raised questions, the answers for which must await future investigation. In the present experiment the subjects remained in a supine position throughout the test; it may be of interest to study the effect of speech on metabolism when the subjects are permitted to use gestures, or are tested in both sitting and standing postures. A more complete picture of the energy required for speech may be obtained by systematically varying duration, loudness, and rate.

The results of this study indicated not only that speech resulted in an elevated metabolism, but that the effect of this activity was still present for four minutes following the act. It has been pointed that '. . . both the production of heat and the consumption of oxygen remain increased for 10 or 15 minutes after a period of activity' (*2*). This same physiological lag has been noted by Hall, Black, Neely, and Hall (*3*) in a report which indicated that the gaseous balance was not regained within six minutes following loud reading. This indicates that the physician or technician should require the patient to be silent for 10 to 15 minutes preceding the basal metabolism test.

Conclusions

The results of the analysis of the data may be summarized as follows:

1. There is no significant differences between the stutterer and the non-stutterer with respect to basal metabolic rate.
2. The speech act is associated with a significant increase in metabolism over the basal metabolic rate for stutterers and for non-stutterers.
3. Stutterers (including both those who had completed therapy and those

who were currently enrolled in a therapy program) did not differ significantly from the normal speakers with respect to differences between their basal and speech metabolic rates.

4. Stutterers who have completed a therapy program show a significantly smaller rise in metabolism during speech than do those who are in the early stages of therapy.

5. There is no difference between the effect of speech on the metabolism of the non-stutterer and its effect on the stutterer who has completed therapy.

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Social And Emotional Aspects Of Aphasia

Vera Biorn-Hansen

By virtue of the complex interrelationship of emotions and the learning process, rehabilitation of the aphasic patient of necessity requires a comprehensive view of the total patient. This means recognizing many factors in the patient's life experience and evaluating the impact of these on the patient's ability to respond in training.

Limited material on the social and emotional aspects of aphasia is found in the literature, although the importance of these areas is generally recognized. Blackman (2) has reported on some of the problems raised by aphasic patients in group psychotherapy. Many were depressed by the awareness of their limitations and the slow gains achieved. Other problems included anxiety related to sexual adequacy and possible loss of femininity or masculinity.

Turnblom and Myers (6) have discussed the family reactions to aphasic patients as found in group discussions with their families. They found responses included pity, hostility, shame, and guilt.

With the increasing emphasis in rehabilitation on the 'whole person' and the consequent expansion of programs to include social work and the related disciplines of the behavioral sciences, more information is needed about the aphasic patient in rehabilitation. This study was planned as a broad survey of the social and emotional problems of aphasia as seen by a social caseworker in her contacts with the patients.

Background and Method

The study, made in the Dysphasia Division of the University of Michigan Speech Clinic, was based on a group of thirty patients who were seen by the staff social worker during a period of three years. Casework may be defined as a process whereby an individual, through relationship with a social worker, is helped to make the most effective adjustment possible to his social environment, within his existing personality structure. Problems may be primarily external or internal in origin, and the caseworker, utilizing her knowledge of ego psychology and of the interaction between the individual and his social environment, helps the individual mobilize these forces toward better adjustment.

The thirty case records were analyzed to obtain general information regarding each patient's background prior to the onset of his disability, the nature of the problems discussed in the course of casework contacts, and the

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services offered in meeting these problems. The focus of this article will be on the problem areas found.

The limitations of this study prevent exacting analysis of the data. The majority of the cases were seen by one social worker, and the study was limited to that information which was raised in the interviews and recorded in the case records. While it is assumed that the most pressing problems were in the case records, it is conceded that if it had been possible to supplement case reading with the interview method, a more accurate profile would have been obtained.

Subjects

Of the thirty patients included in this study, nearly two-thirds were more than forty years of age; the youngest was fourteen years of age. The aphasic disturbances were all primarily expressive in nature with varying receptive losses, mostly mild to moderate in severity. There were twenty-six males and four females. More than half were married with a few separated or divorced. The educational level of the patients was fairly evenly scattered from the eighth grade through advanced professional training. There was a similar scatter in the occupational level from laborers to the business and professional groups.

Findings

Difficulties in Classroom. Problems relating to classroom performance were found in nearly two-thirds of the cases. Tension, both episodic and persistent, was observed by the speech therapists in some while depression was also frequently noted. In some cases, the level of performance was below that which the patient was capable of achieving. Difficulties in interpersonal relationships in the classroom setting were also found in a few of the cases where there was excessive rivalry with other patients and conflict with the speech therapists.

Very often the problems observed in classes were manifestations of difficulties in other areas. For example, the therapists reported that one patient was not responding in class and that he was not putting forth effort. Exploration by the caseworker revealed that prior to his illness the man had not had satisfactory interpersonal relationships and preferred solitude. His lack of speech provided a comfortable means of withdrawal so that he had little to motivate him in regaining speech. In contrast, another patient who was highly motivated by a rather extreme need to be independent, sought rapid cure for his disability so that consequent frustration and depression with the slow rate of progress served further to retard his gains.

Social Relationships. Difficulties in relationships with others in the training program outside the classroom were noted in the records of some of the patients. Those who were overly sensitive responded to pressure, teasing, or joking as personal attacks. It is difficult to evaluate to what extent these responses were emotionally based and to what extent they may be traced to impaired judgment and lack of ability to evaluate the social environment critically. In one of the cases, some of the sensitivity was traced to an unsatisfactory relationship with the patient's father who was also overly critical.

A few of the patients were socially withdrawn with fellow aphasic patients as well as with non-aphasic persons. Some of these men were known to have personality problems prior to

their disability. The following problems were also recorded in a few cases: aggressiveness, hostility, rejection by the group, and drinking. The latter was of special concern since one of these patients had seizures which could be precipitated by alcohol.

Family Relationships. Although all but a few of the patients were separated from their families while enrolled in the training program at the Speech Clinic, it was found that the nature of the relationships in the total family unit greatly influenced the patient's progress in rehabilitation. Since the majority in this study were married males and breadwinners, the family was seen primarily from this point of view.

Role Changes. The most common family problems found in this group centered on the role changes necessitated by the illness. With the onset of the disability, there was a shift of responsibilities and functions to other members of the family along with changes in relationships with the spouse and children.

During the convalescent stages, the wives were called upon to assume a more dominating or a maternal role in nursing the patient. When the patient had sufficiently recovered, many wives were forced to work, thus assuming a socially important aspect of the male role. The majority of the wives in this group found their new roles so satisfying that they had difficulty in relinquishing them when the patient began to recover, thus blocking attempts of patients to regain independence and to resume former activities.

The wife of one patient, in discussing her feelings about her husband's illness, said that all her attention and activity were directed toward her husband during the acute stages of his illness. She became both the mother and the father of the family. She was able to face the fact that he would probably die or that if he lived, he would be a cripple and an invalid the rest of his life, but she was not prepared in any way for his recovery.

Another patient, whom we shall call Mr. M., began speech training six years after his cerebral accident. In this time he had successfully suppressed feelings of anxiety and discontent and had developed a euphoric outlook and a passive pattern of adjustment. His wife was employed in a job which she enjoyed, and she also became the manager of the household, delegating tasks to the patient much as she might to a handyman. Mrs. M. also assumed major responsibility for rearing the children, although Mr. M attempted to retain some of his fatherly role by building things for his children and sharing in some activity for which he received token respect. Mrs. M. found it difficult to accept the rehabilitation goal of her husband's return to work, and he in turn tended to accept passively the lesser role delegated to him. He therefore required a great deal of assistance in developing motivation to change the pattern. His wife also needed assistance in realizing his potentials and in accepting him as a husband and father.

In contrast to this pattern, there were in the group two wives overwhelmed by the increased responsibility which was now theirs. Both were extremely dependent persons who leaned heavily on their husbands prior to the illness and were unable to cope with the new demands. One of them had been under psychiatric care before the illness, while the other

had been sustained solely by her husband's overprotectiveness.

Marital Problems. More specific marital problems were discussed with the caseworker in nine of the cases; it was known that the majority of these couples had experienced conflict prior to the illness. A few of the patients were separated from their spouses; a few underwent divorce proceedings while in the training program. Several of the couples reported unsatisfactory sexual relationships. In a few cases, the patients were impotent; in the majority, the problems rested in the wife who rejected the patient sexually. Again this seemed to be related to the role changes with the wife identifying so closely with the dominating or maternal role that she found the sexual relationship distasteful. The patient, to some, had become a child. One of the wives, about whom more information was available, found her husband's illness provided a good escape from her own sexual conflicts which were of long-term duration.

Overprotection and Rejection. In the group as a whole, including the teen-agers, it was found that many families overprotected the patient. Mrs. L., a forty-year-old aphasic mother who was separated from her husband, resented the smothering attention she received from her children. She apparently needed to achieve a greater degree of independence. On the other hand, an immature young teen-age girl in the group found refuge in her family's overprotection, which prevented her from achieving maximum gains from the training program.

Rejection of the patient by his family, although overt in only a few cases, assumed a more subtle form in many. For example, in some cases the family was belittling the patient by talking about him in his presence, much as parents do with a child.

Relationships with Children. Several of the patients who were parents were concerned about their relationships with their children. They were unable to provide for them as they had hoped and could not share in activities as they felt parents should. Some felt separation while in the training program was causing the children to become more distant in their relationship. It was interesting to note that several patients reported they became easily irritated with their children and with the confusion they aroused, possibly somewhat because of the difficulties in comprehension and partly because of their own frustrations. Two of the men were in competition with their teen-age sons for the male role as head of the family.

Emotional Response. The impact of the dysphasic's disability and the many consequent changes in his life experience would be expected to influence his emotional response. In the group studied, marked depression was indicated in the records of several patients. In many instances this was related to fallen self-esteem and the inability of the patient to accept himself fully as a handicapped person. It was difficult for the patient to give up his emotional attachment to the premorbid self-concept and to accept what was felt to be a less adequate, disabled image. Several patients also revealed anxiety about possible further brain damage.

Dependency. The patient who has either overt or latent dependency needs or conflicts finds these intensified by the demands of a long term illness. Those who were unusually dependent in their relationships with their family, with staff members at the Speech

Clinic, and with fellow patients were generally found to have had some indications of dependency in their premorbid histories.

Miss G. was one of the more dramatic illustrations of this dependency. She was a fifty-two year old unmarried school teacher who throughout her life had leaned heavily on her family, living with them most of the time and frequently borrowing money from them because of her immature handling of finances. While in the training program, her dependence was shifted to one of the staff members upon whom she relied heavily to fulfill her somewhat infantile dependency needs. This pattern made it difficult for her to involve herself in realistic planning at the time of discharge from the Speech Clinic for she anticipated return to her dependent position in the family and in the community.

In one-third of the case records, an underlying dependency pattern was seen. In some, these were overt, as seen in Miss G., but in others there was a strong need to appear independent, camouflaging an underlying dependency pattern which, for some reason, was unacceptable to them. For example, one patient was reported to have seldom confided in his family prior to his illness, and even as a salesman he conducted his affairs with a minimum of reliance on others for assistance. With the onset of his illness, he found dependency even more unacceptable as evidenced by the fact that he never discussed how he felt with his wife. He could not consider employment where he would be under close supervision and he also could not totally accept casework services because of the dependency involved. Two patients whose dependency conflicts were more overt insisted on being treated as self-sufficient; but when the staff responded accordingly, they showed resentment, feeling they were not receiving sufficient attention and support.

Although there was not as complete information about the impact of the disability on the emotional adjustment of the families, there were a few wives of patients in this sample known to have emotional disturbances which were either precipitated or further aggravated by the patient's illness. It should be stressed that the illness by itself did not create emotional disturbances, but the total impact of the changes which have been discussed created sufficient stress to bring these disturbances to the fore.

Vocational Problems. Another problem area found in this group where the majority were wage-earners was that of vocational planning. The most common difficulties were related to job status and to the patient's unwillingness to accept the positions of lesser prestige necessitated by their disability. For example, a successful business executive was greatly disturbed to learn that his role as leader in the firm was now filled by someone else and he could not accept the lesser role of consultant. Another variation of this problem was found in a teen-ager who was in the process of making a vocational choice. He could not accept the more menial types of jobs suggested on the basis of vocational testing, and he resented his family's efforts in arranging summer lawn-mowing jobs.

Vocational testing, therefore, was only a beginning step in job planning. The patient needed a great deal of assistance in accepting the results and in making a vocational choice.

There were numerous other miscellaneous problems of every-day living for which the aphasic patients needed

assistance. Some were unable to manage their finances independently and needed assistance in budgeting, while others required complete staff supervision of their funds. Only one patient in this sample completely financed his own training program; the remainder received partial or total support from a governmental agency which was, for the majority, the Office of Vocational Rehabilitation.

Nearly all the patients required assistance in arranging housing. Most of the men were assigned to a small dormitory set aside for their use. In this situation misunderstandings and conflicts occasionally arose which required intervention by the social worker. In addition, patients needed assistance in writing letters and in arranging transportation for visits home. Some were disturbed to learn that they could not drive automobiles either because their families refused to let them or because legal restrictions prevented them. Although this may appear minor, being able to drive was symbolic to many of maleness and power and to be denied this privilege was another blow dealt to the ego ideal.

Factors Influencing Impact of Disability. Although broad problem areas encountered by aphasic patients have been outlined, there is, of course, no fixed pattern. The nature of the impact of aphasia on an individual patient is determined by his special life situation and by the type and degree of organic impairment. The age level of the patient is an important determinant, since the demands for life adjustments vary at the different stages of development. A teen-age aphasic with a life ahead to plan is faced with a different type of adjustment from the middle-aged family man struck at the peak of his productive years. The premorbid adjustment of both the patient and his family is another important factor. Those who have not made an adequate adjustment prior to the illness will find it even more difficult to meet the additional demands of the disability.

It was also found that those patients who had begun speech training soon after the onset of the illness had problems different from those who had delayed training. The former group had relatively few problems related to role changes and marital conflict, while there tended to be more problems related to overprotection than in the latter group. This does not mean that the role changes had not occurred, but rather that these had not yet become a problem. There was a higher incidence of marital conflict in the group whose training had been delayed. There were also some who had learned to live with their disability and consequently lacked motivation in training. It would seem, then, that the patients who are reached by a comprehensive rehabilitation program before establishing unsatisfactory patterns tend to have less difficulty than those who wait several years.

The occupational level of the patients also seemed to have some bearing on the nature of the problems presented. Frustrations impeding progress were found more frequently in the higher occupational level groups in contrast to the laborers. This might be related to the relative importance of status and communication, with the laborer placing less emphasis on these than the businessman.

Summary and Conclusions

A study was made of a group of thirty aphasic patients who were seen

by the staff social worker in a university speech clinic. Numerous problem areas were found in this group. Some of the major difficulties were related to the many role changes necessitated by the disability. The patient's relationships within his family unit were altered as well as his relationships in the social and vocational worlds. The emotional response of the patient to these changes and to the changes in himself as a disabled person depended in part on his premorbid personality adjustment and also on the nature of his disability, his age, sex and marital status. His family's response was another major factor.

Although no measures were taken of the impact of these complex social and emotional problems on the aphasic patient's progress in speech therapy, it was frequently observed that such progress was related to the relief of internal and external pressures. It appears that psychic energy invested in social and emotional problems definitely limits that available for learning.

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Hearing Loss In Aphasia

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Aphasic patients commonly experience difficulty in understanding spoken language. This difficulty may be largely the result of impairment of auditory perception, recognition, or retention span (*14*, *16*). In some instances, the patient complains that he does not hear well. Audiometric testing is necessary to determine whether the patient actually does not hear, or if he merely does not understand. For this reason, routine audiometric examinations were initiated with aphasic patients seen at Minneapolis Veterans Administration Hospital.

Procedure

Subjects. Subjects were 90 aphasic patients seen in the Aphasia Division of the Neurology Service between February, 1951 and November, 1954. They ranged in age from 19 to 70, and included cerebrovascular accident, traumatic, and tumor cases. Four patients were excluded because it was impossible to obtain reliable tests. These were patients who had extensive brain damage and were unable to attend to any task for even short periods of time. The Minnesota Test for Differential Diagnosis of Aphasia (*16*) was administered to each of the patients in the series and test results showed that each patient had some degree of impairment in auditory comprehension. These results are in agreement with the test findings of Schuell (*14*). Because all aphasic patients were found to be impaired both in understanding spoken language and in expressing ideas, the terms expressive and receptive aphasia appear to have little meaning, and the patients in this series were not so classified. All patients, however, had a persisting aphasia. They were classified according to pattern of impairment found on diagnostic examination (*15*). Since hearing losses were found in a large percentage of aphasic patients in all diagnostic groups, it was considered more meaningful to classify patients according to age and etiology, rather than according to aphasic symptoms.

Method. A pure tone threshold test for frequencies 125 through 12,000 cps was given each patient. An ADC Pure Tone Speech Audiometer (P-60A) with dual dynamic air receivers (Permaflux PDR-1) was used. Testing was done individually by staff members of the Aphasia Division in a clinic room relatively free of noise. The type of earphones used further reduced room noise. Under these conditions calibration of the audiometer was checked regularly by testing two therapists who had no loss of more than five decibels at any frequency.

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The usual procedure for pure tone testing of adults was adapted to the testing of aphasic patients. Factors which influence the testing of aphasic patients are: (1) the impairment in auditory comprehension; (2) the difficulty in communication; and (3) reduced attention span which occurs with some patients.

Routinely, audiometric testing was done after the Minnesota Test for Differential Diagnosis (*16*) was administered. Therefore, the therapist had established rapport with the patient and was familiar with the extent of the patient's impairment in auditory comprehension. When there was a question as to whether the patient's difficulty in understanding spoken language was due to a hearing loss or to aphasia, the pure tone test was administered before the aphasic testing was completed. In all cases at least half an hour was allowed for the pure tone test and careful checking was done to determine whether the patient was responding appropriately.

Difficulty in communicating was not a problem in testing hearing as the patient only had to indicate whether or not he heard the tone. He responded to the pure tone in the manner which was most comfortable to him. The signal light was not used.

The most difficult patients to test were those with extensive brain damage. They had reduced attention span, they frequently perseverated, and their responses were unreliable. Techniques which sometimes made it possible to obtain reliable tests from these patients were: to condition the patient to respond to the pure tone; to ask for a response to each tone; to make sure the patient responded to threshold; to give the patient assurance that he was doing well; and, to provide rest periods when the patient showed fatigue. Whenever there was a question concerning reliability of the test, a retest was done by another therapist or by the same therapist a week later. Agreement of the two tests within five decibels at each frequency was accepted. In four cases reliable tests were not obtained.

For the purpose of this study, a speech frequency loss was defined as a 15 db or more loss in two or more of the speech frequencies (125, 250, 500, 1000 and 2000 cps). A 30 db or greater loss at 2000 cps was also regarded as a speech frequency loss.

In order to demonstrate the extent of the speech frequency losses, the data were grouped into mild, moderate, and severe levels. The losses were rated as to severity in the worse ear in order to demonstrate the losses occurring unilaterally in the speech frequencies and bilaterally in the high frequencies. Because a large proportion of the speech frequency losses began to drop at 2000 cps, these losses were included in the definition and discussion of each severity level.

A mild hearing loss was defined as a 15 to 25 db loss in two or more of the speech frequencies or a 30 to 35 db loss at 2000 cps only. A moderate loss was defined as a 30 to 45 db loss in two or more speech frequencies or a 45 to 55 db loss at 2000 cps only. A severe loss was defined as a 55 db or more loss in two or more speech frequencies or a loss greater than 60 db at 2000 cps only.

A high frequency loss was defined as a 15 db or more loss in two or more of the high frequencies (3000, 4000, 6000, 8000 and 12,000 cps). Patients with only high frequency losses will be discussed according to the severity and the frequency of the peak loss in the worse ear. No attempt was made

TABLE 1. Incidence of hearing loss for 90 aphasic patients.

	Speech frequency loss (125–2000 cps)				*High frequency loss (3000–12000 cps)*
	Mild	*Mod.*	*Sev.*	*Total S.F.*	
Patients with unilateral loss*	10	3	1	14	10
Patients with bilateral loss	11	11	8	30	26
Totals	21	14	9	44	36

*Unilateral losses in speech frequencies are bilateral in high frequencies, except in one case.

to rate the high frequency losses according to their severity.

A progressive loss was defined according to Fowler's (7) description. He considers a loss progressive when, on successive dates, the threshold audiograms consistently show a decrease of 10 db or more at two or more frequencies whether or not some of the other frequencies show temporary improvement.

Results

The incidence of hearing loss is summarized in Table 1. Of the 90 aphasic patients given pure tone hearing tests, 80 (88%) had hearing losses. Of these 80, 44 (55%) had speech frequency losses. Thirty (68%) of the 44 with speech frequency losses had bilateral speech frequency losses. Twenty-six patients were retested. The mean length of time between test and retest was 2.8 months. Two patients had progressive losses.

Of the 44 patients with speech frequency losses, 21 (48%) had mild losses. Eleven of these 21 (52%) had bilateral speech frequency losses. In seven of the 21 patients with mild losses, the loss became more severe at 8000 and 12,000 cps. In only one case was the loss unilateral in the high frequencies.

Fourteen (32%) of the patients with speech frequency losses had moderate losses; eleven (79%) of these patients had bilateral losses. Four patients with moderate losses had losses which began to drop at 2000 cps. All but one of the moderate losses became more severe at 8000 and 12,000 cps.

Nine (20%) of the 44 patients with speech frequency losses had severe losses. Three of the severe losses began to drop at 2000 cps. Eight patients with severe losses had bilateral speech frequency losses which became more severe at 8000 or 12,000 cps. The remaining patient had normal hearing in one ear while no response could be obtained in the other ear.

Thirty-six patients had losses in the high frequencies (3000 to 12,000 cps). Thirty-three (92%) of the patients with high frequency losses had peak losses in the worse ear at 6000 or 12,000 cps. Nineteen (53%) of these patients had peak losses greater than 60 db while 17 (47%) had peak losses from 25 to 55 db.

Histories obtained from the patients and their families revealed that frequently the patient was not aware of a loss existing before the onset of his illness. The question arose as to whether the loss was a result of the

TABLE 2. Incidence of hearing loss for 90 aphasic patients according to age group.

	Speech frequency loss				*High frequency loss*	*Total*
	Mild	*Mod.*	*Sev.*	*Total S.F.*		
Patients under 50 (N = 47)	9	4	3	16	21	37
Patients over 50 (N = 43)	12	10	6	28	15	43

brain damage or a factor of the specific population seen in the hospital.

Analysis According to Age Group. If age alone accounted for the losses, older patients should have a greater incidence of hearing loss than the younger patients. Surveys and clinical studies (*1*, *2*, *3*, *19*) have demonstrated that high frequency losses can be expected in persons over 50. An examination of the data in the present study was needed to determine whether the incidence of hearing loss was found primarily in the group of patients over 50 or whether a large percentage of the younger group also had losses.

The incidence of hearing loss according to the two age groups is summarized in Table 2. Forty-three patients over 50 years of age were tested. All of these patients had bilateral high frequency losses. Of these 43 patients, 28 (65%) had speech frequency losses.

It can be expected, therefore, that a hearing loss may co-exist with the aphasic impairment in the older age group. Also, a large number may be expected to have speech frequency losses. This appears to be significant in planning therapy for patients in this age group.

Forty-seven patients under 50 years of age were tested. Of these, 37 (79%) had losses; 16 (43%) of the patients with losses had speech frequency losses. Ten of the 16 were bilateral losses. It is especially significant that such a high percentage of persons in the younger age group had a hearing loss. However, only 44% of the younger patients had moderate or severe speech frequency losses.

Analysis According to Etiology of Brain Damage. Because of the high incidence of losses existing in the younger age group, the data was further analyzed to determine if a significantly higher incidence of loss was found according to etiology of

TABLE 3. Incidence of hearing loss in 90 aphasic patients according to etiology of brain damage.

	Speech frequency loss				*High frequency loss*	*Total*
	Mild	*Mod.*	*Sev.*	*Total S.F.*		
Cerebrovascular (N = 55)	13	10	6	29	22	51
Traumatic (N = 22)	6	1	1	8	9	17
Tumor (N = 13)	2	3	2	7	5	12

brain damage. The data of patients with the diagnosis of cerebrovascular accident, trauma, and tumor were treated separately. The incidence of hearing loss according to etiology is summarized in Table 3.

Fifty-five patients were diagnosed as cerebrovascular accident cases. This included aneurysm, thrombosis, embolus, and hemorrhage. Of the 29 cerebrovascular cases with speech frequency losses, 21 (72%) were bilateral. Thirty-nine patients with cerebrovascular accidents were in the older age group where it was demonstrated that all patients had losses. Therefore, the high incidence of hearing loss in this group can be explained partially on the basis of age. The data of 16 patients who were under 50 were analyzed to determine whether a factor other than age was operating. Twelve (75%) of these patients had losses. Four were speech frequency losses. Of these four, three were mild losses and one was a moderate loss. It appears, then, that fewer speech frequency losses occur in the younger cerebrovascular group and that the losses are less severe. However, the high incidence of losses in the frequencies 3000 to 12,000 cps would appear to be related to the cerebrovascular accident.

Twenty-two patients were aphasic as a result of a traumatic incident. This included gunshot wounds and automobile accidents. Five of the eight speech frequency losses were bilateral. The two patients with progressive losses were in this group. Exposure to loud noises may account for the incidence of hearing loss in some of the traumatic cases. Eighteen (81%) of the traumatic group were Korean War veterans who were exposed to battle conditions. Experimental studies (*11*, *12*) demonstrated that permanent damage to hearing can result from exposure to gunfire. Clinical studies (*5*, *8*, *10*, *13*, *20*) supported this finding.

Studies (*8*, *12*, *13*, *20*) on the effect of gunfire on hearing have further demonstrated that the most severe losses are found between 3000 and 12,000 cps. In the present study, thirteen (72%) of the 18 Korean War veterans sustained hearing losses which were more severe in the high frequencies. Two types of high frequency losses were observed: those which had a dip in the audiometric curve at one frequency, and those which dropped suddenly and became increasingly severe above that point. Two patients had losses which dipped at 4000 cps, and four patients had dips at 6000 cps. The remaining patients had losses which dropped at 2000, 3000, 4000 or 6000 cps and became increasingly severe above the drop.

Ogden (*12*), Murray (*11*), and Stewart (*20*) found that high frequency losses are most common after exposure to loud noise, but as the loss becomes more severe it affects the speech frequencies. This appeared to be true with the Korean War veterans in the present study. Six of the thirteen Korean War veterans with losses had speech frequency losses. These six patients had a minimal peak loss of 60 db in the high frequencies, while the seven patients with high frequency losses had a maximum peak loss of 60 db.

Davis (*5*) and Stewart (*20*) have observed that individual variations in susceptibility to noise are common. This factor may account for the five Korean War veterans who had normal hearing.

All of the 22 patients in the traumatic group sustained head blows. In his experimental studies, Schuknecht, (*17*, *18*) found that hearing losses may

result from blows to the head. This may occur with or without a fracture to the temporal bone. The loss may occur bilaterally and is usually most severe in the high frequencies. In this study, 15 of the 17 traumatic cases with hearing losses had losses which were more severe in the high frequencies; 16 of the 17 were bilateral high frequency losses. It appears that both exposure to gunfire and head blows can account for the high incidence of losses found in the traumatic group.

Two of the patients who were retested had progressive losses. Both were young Korean War veterans who had been under intensive battle conditions. Both had sustained head wounds. In studying histologic changes in the organ of Corti of guinea pigs following exposure to intense sound, Luri (*9*) found that damages produced by intense tones were degenerative. He postulated that the progressive changes occurring over a period of days would decrease the response at frequencies which were only minimally affected immediately after exposure. Covell (*4*) reported similar findings. These findings would indicate that patients who have sustained hearing losses following exposure to intense sound should have repeated audiometric examinations over a prolonged period of time.

Thirteen patients with tumors were tested post-operatively. Seven (58%) of the 12 patients with hearing losses had speech frequency losses; four of these were bilateral. Drury (*6*) found even a higher incidence of hearing loss in testing 291 cases with brain lesions. His study included patients with tumor, multiple sclerosis, and arachnoiditis. Drury found that all of these patients had demonstrable losses. However, Drury does not indicate the extent of the loss or whether the testing was done before or after surgery.

Discussion

It is important that therapists working with aphasic patients be aware of the possibility that a hearing loss may exist concomitantly with the aphasic impairment; therefore they should test for a loss. If a significant loss exists, therapy methods can be adapted according to the severity of the loss and the needs of the individual patient. The adjustments which are made with any person with a hearing loss also should be observed for aphasic patients with a hearing loss. That is, speak loud enough, talk directly to him, and repeat material if necessary.

Patients who are severely impaired in auditory retention and who have moderate to severe losses at 1000 and 2000 cps frequently benefit from increased amplification in therapy. Non-aphasic patients with similar losses often can compensate for imperfect reception by situational cues, contextual cues, and lip reading. Aphasic patients cannot retain material long enough to make these adjustments. Frequently, after several weeks of therapy, amplification is no longer indicated. Increased auditory retention span probably accounts for this.

Frequently, aphasic patients with hearing losses do not derive major benefit from a program of lip reading and ear training. This again is due to impairment of auditory retention span. If the patient does not have a severe aphasic impairment, a trial program of lip reading can be initiated and the decision as to whether it should be continued made from his response to the trial program.

The usual criteria in selecting a

hearing aid should be followed. If there is a doubt as to whether the patient should be fitted with a hearing aid, the decision should be made in favor of the aid for the aphasic patient. The possibility of progressive losses with patients who have been exposed to noise trauma should be taken into consideration in this evaluation.

Summary

A pure tone threshold test for frequencies 125 through 12,000 cps was given to 90 aphasic patients in the Minneapolis Veterans Hospital, between February, 1951, and November, 1954. It was found that 80 (88%) of the patients had hearing losses: forty-four (55%) of these 80 patients had speech frequency losses, and 30 (68%) of the patients with speech frequency losses had bilateral losses. Of the 44 patients with speech frequency losses, 21 (48%) had mild losses, 14 (32%) had moderate losses and 9 (20%) had severe losses.

A high incidence of loss was found with the young patients as well as with the older patients. The percentage of patients having moderate to severe losses was greater in the older group than in the younger age group. A high incidence of loss was found in all etiology groups. However, the incidence of moderate or severe losses was less in the traumatic group than with the cerebrovascular or tumor groups.

Twenty-six patients were retested upon termination of therapy. Two patients in the traumatic group had progressive losses. There was evidence to suggest that this was due to exposure to intense noise. The incidence of loss in both age groups and in all etiology groups is high enough that audiometric testing is indicated with all aphasic patients. This information is necessary in order to plan and adapt therapy which will be most beneficial to aphasic patients with hearing losses.

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Home Teaching Of Young Deaf Children: A Pointer In Parent Education

Daphne Nicholson Bennett

From its foundation in 1942 the John Tracy Clinic has been devoted to the preschool child with a particular concentration on parent education. The John Tracy Clinic Correspondence Course is a means of expanding the educational service to parents who do not have access to preschool centers. The Course is planned for ages 20 months to six years. It covers a year's work and provides training for both parent and child. Twelve monthly installments cover the first lessons in lipreading, language, sense training, acoustic training, and speech preparation (*4*). In keeping with the philosophy of the Tracy Clinic, the child and not the handicap is regarded as the object of the educational process. An outline of activities of normal children is given to parents as the basic context in which all teaching of the deaf child should be done. Problems of everyday living—dealing with such areas as eating, sleeping, behavior problems, the handling of tantrums, and toilet training—are discussed. Thus, the emotional aspects of training are taken into account as important factors in language learning (*3*). With regard to the actual teaching, parents are told (1) to talk to the child but not to force him to talk—understanding comes before speech; and (2) to follow the child's lead in the lessons.

There is never any suggestion that the parents should be substitutes for the trained teacher. However, it is assumed that, with skilled, trained assistance, parents can help to lay the foundations of language for their young deaf children. The early years are vital for language learning and, if they are neglected, the child's mental development can be profoundly warped (*2*).

The only condition on which the monthly installments continue to be sent to parents is that they write reports on their work and progress in response to those installments. Parents are invited to ask questions and individual letters are written to all who take the Course.

The success[1] of the parents in teach-

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[1]Success was operationally defined. It was indicated by reports from parents that the child responded to the exercises and was increasingly watching the lips of the speaker and giving increasingly a behavioral

ing their children varies widely. In view of the importance of finding effective ways of helping parents of the deaf to meet the demands of their task as parents, there seemed to be a need for research which would attempt to account for the varied success in using the Course.

Purpose

The study was not designed to evaluate the Correspondence Course but to make an exploratory survey of the factors which facilitated and the factors which interfered with the teaching of language to the preschool deaf child by parents who used the Course. The problem was subsumed under four main headings covering factors which tended to help or hinder the learning of language: (1) Teaching methods; (2) Emotional attitudes and interpersonal relationships; (3) Reactions to Correspondence Course suggestions; (4) Other factors.

In addition, specific questions were asked with reference to the cases studied. They included the following: (1) Was there a greater incidence of success in using the Course in (a) higher income groups[2] and (b) when the deaf child was an only child? (2) Was there any report among the cases studied that any child or children responded to language training but failed in social adjustment?[3]

Method

The case study method was used and in selecting the cases the assistance of the director of the Course was relied on. Responses to the Course were then investigated through the correspondence files of 74 correspondents involving 82 cases. There were seven cases of multiple handicap. Fifty-three of the cases were from the United States, the remainder were divided between 13 other countries. There were 25 hard of hearing cases and 57 deaf cases. Forty-eight of the cases were 20 months to three-and-a-half years old and 34 of the cases were three-and-a-half to five years old and over.

Only actual statements from the correspondence files were used as data. Factors bearing on success or difficulty were differentiated and then subsumed under the four categories mentioned previously. All subcategories were suggested by the data themselves.

Findings

Teaching methods. According to the correspondence, the concrete approach, using the immediate practical interest of the child to teach the names of objects and actions, was successful. Likewise, the casual method tended to bring good results. Parents wrote that children who resisted all efforts at formal training responded to casual teaching.

> The mother of N., a three-year-old deaf boy in Denmark, found that he

response to the intention of the speaker. If the child's own capacity for response was increased, there was success. It should be added that cancellation is not itself a criterion of lack of success—some who cancelled gained from the Course.

[2]Higher income groups included all who earned more than $4,000 a year, while lower income groups included those who earned $4,000 or less.

[3]The phrase 'failure in social adjustment' was used to describe only such cases as were reported by a consensus of specialists (psychiatrists, welfare workers, etc.) to have failed in the social adjustment commensurate with age and mental capacity.

did not respond to formal work. After four months of using the casual approach, she wrote, "These months when we have not had regular work we have noticed a remarkable progress in N.'s vocabulary and language. N. 'speaks' all day long and uses long sentences."

Parents who consistently used everyday life situations such as the meal table to talk to their children reported a good response, as did those parents who utilized the child's own requests for lessons. One mother who successfully incorporated specific language teaching into play gave an extra lesson after supper when the child asked for it. She reported, 'His best work is done then.'

Parents indicated that flexibility in the actual lessons, as well as an ability to use the child's interests in general, fostered learning. Many parents used the child's wish to go outside as an opportunity for teaching words, not as a lost opportunity for set lessons. Delayed lessons did not necessarily mean the expenditure of extra time if the mother was on the alert for opportunities to teach the child language and to utilize the child's own initiative.

Parents who indicated an awareness of a specific goal and of methods being used to attain that goal reported success in teaching. These parents used situations and opportunities casually as they arose for specific teaching of words.

A mother of a severely hard of hearing two-year-old boy reported, 'He makes every effort to pick up new words which he does in three ways—ears, eyes, and hands. A new word must be spoken close to him, a few inches from his ear at first, secondly repeated so he can see it (and he watches so eagerly) and again a third time so he could feel your throat (this he does willingly).'

Parents who appeared to be using inflexible teaching methods reported difficulty. Inflexibility was considered to be a stress on formal time and place for teaching. This often meant a deflection of the child's immediate interest instead of a use of it for the purposes of learning. In some cases, parents reported that exercises were continued beyond the point where the child lost interest and that no progress was made. At the other extreme, some parents apparently used an approach which was beyond the child's ability to conceptualize. For example, some parents reported failure when they did not relate their conversation with the child to the immediate concrete situation.

Emotional attitudes and interpersonal relationships. An attitude of acceptance appeared to be the most important helping attitude in teaching. The parents whose correspondence indicated acceptance of the deafness as a fact and recognition of the child's achievement within the limits of his ability were most successful. The reports of these parents indicated application to the immediate task of teaching without recourse to one remedy after another. The correspondence tended to show that an attitude of cooperation in the family helped learning.

Z. was a severely hard of hearing two and-a-half-year-old girl whose mother was a very successful teacher. The whole family discussed the course and siblings were told to talk to the child and not to point. Z. was included in all family activities and was given as much help in understanding as was needed to compensate for her handicap.

The mother of another successful case wrote of the way the family joined in the teaching activities:

Last week we added a new game, 'This is the way we wash our hands' followed

by 'Wash our face,' 'Brush our teeth,' 'Comb our hair,' etc. The whole family takes part in these games occasionally, including Daddy, who misses most of the regular lessons.

Parents who seemed to accept the deafness reported that they were not hypersensitive to the reaction of others. To friends, relatives, and others with whom they came in contact, they tried to explain the facts of deafness and what could be done to rehabilitate the child. The reduction of shock and embarrassment in the people around him was invariably reported by parents as a factor which helped the language teaching.

There were reports of changes in attitude from despair to hope in the successful parents who did not know until they received the Course that there was anything that they could do to help their child. The individual letters from the director in which parents were given personal attention in response to their particular problems were found especially helpful. 'It was not just the knowledge but the spirit of the course which helped me,' said one mother.

Some parents, however, continued to indicate an attitude of despair. The knowledge of what could be done for the deaf and the advice given by the Course and the individual letters did not appear to reach them. The correspondence seemed to show that such parents did not accept the fact of the deafness and continued to hope that the diagnosis was incorrect or that the handicap would be cured. Some parents expressed great anxiety about the deafness but still failed to treat it as a problem requiring specific attention and handling.

A foreign correspondent, a graduate in psychology and the mother of a two-year-old deaf girl, before completing two months of the Tracy Clinic Course, had employed and dismissed a teacher and was 'dashing through' another course to teach her how to be a teacher of the deaf. 'It is by no means the answer to my problem,' she wrote, 'but answer there is, I know, so I shall just wait for it to present itself.' A month later the same mother had gained admittance to a university in another country to study with a well known teacher. Two months later still this plan also was abandoned and the mother began looking for a school for her deaf daughter who had driven her 'on the verge of despair' by crying and temper tantrums. The Course was a failure. The mother was so emotionally upset that she could not use it.

Some parents indicated by their correspondence an attitude of rejection toward the child and toward the handicap. Such parents seemed to be unable to accept even the good achievement of the child as worthy of satisfaction. They tended to compare their own children unfavorably with other children or with an arbitrary standard.

I. was the two-year-old deaf son of a medical doctor. A paid teacher was placed in charge of the Course. The teacher reported that the child had been submitted to many tests even after the diagnosis of deafness. One doctor said he should be placed in an institution for the feeble-minded. 'They paid no attention to the possibility he might be deaf,' wrote the teacher. Psychiatric test, however, revealed that he was above average in intelligence. The teacher wrote that there was a good response to the lessons but said that the mother was indifferent to the Course and that both parents felt a keen sense of social stigma in having a deaf child. The boy became a severe behavior problem.

A variety of emotional disturbances was reported in children who were making a poor response to the language teaching. Some of the stated disturbances were: turning away from the approach of the father or mother, sleeping difficulty, eating difficulty,

TABLE 1. Success in higher income groups as compared with success in lower income groups in using the John Tracy Clinic Correspondence Course.

Category	*Number of correspondents*		
	Higher income group	*Lower income group*	*Total*
Total using the course	37	37	74
Number not finishing the course	11 (1 responsive)	19 (2 responsive)	30
Number finishing the course	27 (18 responsive)	17 (15 responsive)	44
Total number of correspondents whose children were responsive to the course	19	17	36
Outstanding failures	4	1	5
Outstanding successes	9	3	12
Number beginning unsuccessfully and ending successfully	3	4	7
Number handed over to a teacher or school	4	2	6
Number consistently responsive	7	7	14

rocking, toilet trouble, screaming, difficulty in attention span, and 'plain afraid of speech reading.'

The correspondence indicated that parent-child relationships were very important in determining the success of the parents as teachers. The advice offered through the Course seemed not to be enough to change the quality of the relationship—'knowing better' or 'being told' appeared insufficient to change adverse attitudes, whether they were expressed in rejection of the child or in rigidities in teaching method.

Reactions to Correspondence Course suggestions. Two main areas of difficulty, which were also two extremes, were differentiated: (1) A literal following of the course without adapting to the age and capacity of the child; (2) Not using the Course suggestions at all, as when parents continued to make speech their immediate goal, despite being told it was not the immediate aim of the teaching.

Other factors. The following were reported as additional difficulties: (1) Multiple handicap—six cases; (2) Poor physical health of the parents—five cases; (3) Poor physical health of the child—six cases; (4) Too busy with house work or social engagements—three cases; (5) Intellectualizing—parents of three cases read widely on psychology, hearing, and education, and wrote reports of their discussions, but their teaching was not successful.

Success in higher income groups. Parents in both higher and lower income groups reported improvement in teaching methods as a result of the Course (see Table 1). The higher income group contained the majority of outstanding successes. It also contained the majority of outstanding failures. In the case of the one outstanding failure in the lower income group, emotional problems and feeble-mindedness were indicated.

Success where the deaf child was an only child. There was no indication in the cases studied that there was a greater incidence of success in teaching when the deaf child was an only child compared with success where

TABLE 2. Distribution of success in terms of family size in using the John Tracy Clinic Correspondence Course.

Category	Number of children in the family					Total of correspondents
	1	2	3	4	5 or more	
Number of cases:						
Total using the course	23	32	10	5	4	74
Number not finishing the course	13	8	6	2	1	30
Responsive	0	3	0	0	0	3
Number finishing the course	10	24	4	3	3	44
Responsive	10	13	2	2	3	30
Total responsive	10	16	2	2	3	33
Outstanding failures	1	3	1	0	0	5
Outstanding successes	5	3	1	2	1	12
Number beginning unsuccessfully and ending successfully	3	3	1	0	0	7
Number handed over to a teacher or a school	3	2	1	0	0	6
Number consistently responsive	2	8	3	1	0	14
Percentage of cases:						
Not finishing the course Unresponsive	56	15	60	40	25	
Finishing the course Responsive	43	41	20	40	75	
Responsive cases combined	43	50	20	40	75	

the deaf child had siblings (see Table 2). There were no outstanding failures in the small sampling of families of four or five children. Reports of family cooperation were common in the successful cases.

Cases which responded to language training but failed in social adjustment. Two cases were reported: a two-and-a-half-year-old hard of hearing boy and a three-year-old deaf girl. Both were referred for psychiatric treatment for emotional problems. The boy was said to have been brought up in a cold repressive atmosphere and had no interest in people despite his mastery of vocabulary. The girl had arrested superior intelligence.

Conclusions

1. The survey appeared to indicate the validity of using the child's interests in a flexible manner to achieve goals within his reach rather than intellectually imposing subject matter on him.

2. Parents expressed a need for knowledge of the handicap and of what to do. They also reported being helped personally by individual letters.

3. The survey indicated that emotional attitudes affected every area of the parent-child relationship and the teaching methods themselves.

4. From the correspondence, it appeared that neither the location of residence, size of family, socio-economic status, level of education in general, or knowledge of psychology or educational method in particular influenced the success of language learning to any extent.

5. Parents revealed that dealing with a deaf child placed considerable stress on their adjustment. Some par-

ents indicated that the tension and anxiety following the initial shock of having a handicapped child persisted to an incapacitating extent.

6. Parents who reported poor response in the language teaching also tended to report behavioral and emotional problems in the child.

In view of the emotional stress experienced by parents of handicapped children and the greater need for adjustment on the part of the child, the availability of therapeutic as well as informational help for parents would appear to be necessary. The need would appear to be great in the case of deafness, because of the psychologically isolating nature of the handicap, but would seem to hold for all organic disorders where the shock effect on parents tends to be similar (*1*).

It is only through an increased awareness on the part of doctors, therapists, and teachers of the needs of parents that such help can be made more extensively available in service clinics and schools. There is a need for a methodology in parent education which takes account of the parents' needs for therapeutic help to modify adverse attitudes and to create a parent-child relationship which is optimal for language learning. Increasing insight by educators into the person as a whole, whether parent or child, is a necessary part of the total program of rehabilitation and special education, not only of the deaf but of all handicapped people.

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Survey Of Families Enrolled In The John Tracy Clinic Correspondence Course

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This report is a summary of a survey made at John Tracy Clinic to evaluate the experiences of 5,004 families who have been enrolled in the Correspondence Course. This survey was intended to serve as a basis for a revision and expansion of the Course, and also to provide a normative study of one of the largest groups of deaf children ever made.

To those concerned with medical and educational treatment of the deaf, the scarcity of adequate normative or descriptive information has often been a source of frustration and difficulty. The enumeration and the determination of population characteristics are necessary steps in the development of any scientific endeavor. There have been few sources of information concerning the deaf population other than the United States Census which collected data about the deaf from 1820 to 1930, and the National Health Survey which conducted an intensive study during 1935 and 1936. However, these studies dealt with the entire deaf population, whereas this survey is concerned only with the preschool age deaf child and his family.

Based on the figures available from census studies, this sample of 5,004 deaf children represents a substantial portion of the severely deaf children who would have been eligible for the course during the 13-year period covered by the study. The information assembled in the course of this survey will be of interest to other workers concerned with diagnosis, treatment, and training of deaf children.

Source of Data

The information contained in this study was obtained from the files of the John Tracy Clinic Correspondence Course. The Course is available to all parents of preschool age children who have hearing impairments. It covers one year of work which any untrained parent can do at home with the supervision supplied by mail from the Clinic. The program is explained

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in simple language and is necessarily flexible, since the children are all of preschool age. The idea is to provide suggestions easily understood and easily followed, to give parents something constructive to do to help their deaf children, and to give the children themselves something constructive to do to utilize their energies and natural abilities, and to put them into communication with the world around them.

To enroll, a parent need only return a completed application form to the Clinic. Over 7,000 families have been enrolled to date. The first 5,004 children enrolled were selected for this study because they have had ample opportunity to complete the Course.

During the initial period, families receive general introductory material to prepare them for the work ahead. The Correspondence Course goes out in 12 monthly installments. There is no charge, but parents are required to report their progress and problems encountered in working with the lessons. For every letter received, a personal reply is written to the parents. In this reply the Correspondence Course staff attempts to answer parents' problems and to give parents specific suggestions for continuing the lessons. The letters also give the staff an opportunity to offer the parents encouragement to continue. Parents write again and again that these personal replies have been extremely important to them.

The information obtained from the parents' original applications and from subsequent correspondence was coded according to a prearranged schedule. The coding was done by a research staff especially trained for this work. The reliability of the coding was first established by a training period and later by having each case coded by two or more coders to check the accuracy of the procedure. The coded information was then punched on 80-column IBM cards and analyzed by processing it through tabulating machines. This processing gave the distribution on each of the variables and made it possible to compare subgroups in the sample. The basic information is presented in the Appendix.

Age and Sex of Children

The course was initially designed for children between the ages of twenty months and five years. The survey indicates that the average age at the time of application was actually three years and three months. Ninety per cent of the children were between the ages of one and five years. Many of the children in the older-than-five group were living in isolated areas where no other training was available, or they had additional handicaps which required special consideration. In this sample population of 5,004 children, 55% were boys and 45% were girls. The slightly larger number of males is consistent with earlier Census findings.

Residence

Although the course is available to people all over the world, there was a question as to the extent to which the sample approximated the geographical distribution of the deaf in the United States. The fact that the Course was distributed from California might have resulted in a disproportionate number of cases from that area. To evaluate this possibility, it was necessary to compute the percentage of people living in different geographical regions of the United States as revealed in the

TABLE 1. Geographical distribution of total U. S. population, deaf population, and enrollees in the John Tracy Clinic Correspondence Course.

Area	*% U. S. Population 1950 Census*	*% Deaf Population 1930 Census*	*% John Tracy Clinic Enrollees*
New England, 8 states	19.2	18.2	16.8
Eastern, 5 states	14.5	15.1	11.2
North Central, 7 states	17.7	19.4	18.9
Southern, 11 states	21.2	21.0	11.9
Southwestern, 4 states	8.3	4.6	18.3
Central, 7 states	14.4	17.2	14.9
Northwestern, 6 states	4.7	4.5	7.9
Totals	100.0	100.0	100.0

last Census; the percentage of deaf people living in these areas, as revealed by the 1930 Census; and the percentage of the sample of young deaf children living in these same areas. The figures are presented in Table 1.

With the exception of the small percentage in the Southern states and the anticipated greater representation in the Southwestern area, the correspondence course appeared to have received a fairly proportional distribution throughout the United States. Table 1 excluded the 515 copies of the course sent outside the United States to 52 different countries.

Although the Correspondence Course was designed to be useful to parents of deaf children anywhere in the world, it was felt that it might be of slightly greater value to parents living in smaller communities where the specialized services of speech centers were not available. Table 2 presents a comparison of the total United States population distribution according to size of community and the distribution of John Tracy Clinic Correspondence Course enrollees. Only nine per cent of the sample lived in communities smaller than 1,000 population as compared with 36% of the United States population residing in such communities. Contrary to expectations, it appeared that the Course is proportionately more popular in large communities.

TABLE 2. National population distribution and John Tracy Clinic Correspondence Course enrollee distribution by size of community.

Size of Community	*% Total U. S. Population 1950*	*% John Tracy Clinic Enrollees*
Smaller than 1,000	36.6	9.1
1,000–100,000	34.0	54.0
Over 100,000	29.4	36.9
Totals	100.0	100.0

This finding suggests that knowledge of the availability of the correspondence course may not be widely disseminated in smaller communities. Another possibility is that parents who have young deaf children would, wherever possible, move to larger communities where more specialized training might be available.

Occupation

Ninety-three per cent of the 3,971 mothers who responded to the ques-

TABLE 3. Comparison of occupation of fathers enrolled in John Tracy Clinic Correspondence Course with U. S. Department of Commerce occupation figures.*

OCCUPATION		%	
Correspondence Course Survey Classification	*U. S. Dept. of Commerce Classification*	*Correspondence Course*	*U. S. Total*
Major professional and large business owner	1	4.38	7.33
Minor professional and small business owner	2 & 3	23.80	21.06
White collar, clerical, salesman	4 & 5	14.30	12.83
Blue collar worker, clerk, foreman	9 & 10	7.90	4.81
Skilled labor, journeyman	13	16.91	18.63
Semiskilled laborer	6	16.68	20.04
Unskilled laborer	11	6.80	8.15
All other	7, 8, & 12	9.18	7.13

*Statistical Abstract of the United States: 1955, 76th Annual Edition, U. S. Department of Commerce, U. S. Government Printing Office, Washington, D. C.

tion listed their primary occupation as housewife. The remaining seven per cent were engaged in either full or part time occupations outside the home. The occupations of the fathers are shown in Table 3, which compares the occupation categories used in this survey with those of the U. S. Department of Commerce. Table 3 indicates the Correspondence Course sample contained a distribution similar to that of the entire United States.

Socio-Economic Level

From the information available it was impossible to make satisfactory judgments of the socio-economic status of the families in the sample. By combining available information on income and occupation, it was possible to classify, tentatively, one per cent in the upper socio-economic group, 82% in the middle category, and 17% in the lower socio-economic level.

Hearing Loss

Thirty per cent of the 5,004 children were rated as hard of hearing. For purposes of this report, 'hard of hearing' was defined as approximately a 30 to 65 decibel loss. Fifty-three per cent of the sample were rated as severely or profoundly deaf, that is, with losses greater than 65 decibels. The extent of the loss for 17% of the children had not been evaluated at the time of application.

The percentage of hard of hearing children was slightly larger than expected. The course was primarily designed for severely deaf children, and its instructions and exercises are more applicable to that group. There is a possibility that for some parents the term 'hard of hearing' is more acceptable than the term 'deaf.' Since much of the information in this survey was obtained from parents' reports alone, the possibility of such distortions must be considered.

In the total sample, 54% of the children were classified as having 'nerve deafness;'[1] one per cent of the children were classified as having conductive deafness, and the remaining 45% were undiagnosed at the time of applying for the course. The nerve deaf cases were further divided into congenital (34%) and acquired (20%). It was possible to attribute seven per cent of the congenital cases to such pre-natal factors as rubella, or drugs administered to the mother during pregnancy; and five per cent to natal factors such as birth injuries or RH incompatibility. The 20% acquired cases were attributed to such post-natal factors as meningitis, measles, scarlet fever, and encephalitis. In view of the difficulty of accurate diagnosis, it is entirely possible that from the information at hand, many of these cases were misclassified.

Awareness of Deafness

A large majority of this parent-group became aware that their child was deaf because of the child's failure to respond to their voice or failure to hear loud sounds. The figures show that of the 2,913 families responding, 41% made the discovery because of the child's failure to respond to voice; 23% made the discovery because of the child's failure to hear loud sounds. Twenty-six per cent did not become aware of the possibility of deafness until their children failed to develop speech at the normal age. This rather large number of parents who were not aware of the early loss emphasizes the importance of early diagnostic screening on the part of pediatricians and doctors as well as the great need for parent education.

By far the largest percentage of the 3,643 parents who reported an answer to the question, 'Was hearing loss suspected by parents before diagnosis by a physician?' replied in the affirmative. Only 231 first learned of their child's deafness through the physician's diagnosis.

Some indication of the importance of the correspondence course as an early educational guide for parents may be seen from the fact that 92% of the 3,346 parents responding to the question had no previous knowledge about deafness and the education of the deaf. Only 639 children were enrolled in any sort of school at the time of starting the course, and only 371 had received any private instruction.

Medical Service

Only 715 of the families reported that they had received specialist treat-

TABLE 4. Families reporting medical treatment for their children.

Kinds of Treatment	*Responses*
Osteopathic	28
X-Ray or Radium Treatment	142
Removal of Wax	15
Surgery	27
Tonsils and adenoids	373
Specialist Treatment other than those listed above	130
Total	715

[1]The term 'nerve deafness' is used because of the terminology employed in the Correspondence Course application. It is felt, however, that the term 'perceptive deafness' might be preferable. With children of this age, it is extremely difficult to determine whether the damage has occurred in the end-organ, the nerve, the auditory nuclei, or centrally thereto. The mere lack of other central neurological symptoms does not rule out hearing loss due to central lesions.

ment at the time of application for the course. It was unfortunate that the type of specialist was not specified. It was intended that the term refer primarily to otologists. A summary of the types of treatment received is given in Table 4.

It has often been claimed that because the average doctor sees so few young deaf children, he cannot possible keep abreast of available educational services, but this would appear not to be the case. In answer to a series of related questions, 71% of 3,295 parents responding reported their physicians knew the names of schools for the deaf near the parents' home and were able to direct them to such schools. Only 133 of the physicians used the inaccurate label, 'deaf and dumb', and 2,619 discussed the teaching of speech with the parents. Seventy-one per cent of 3,516 parents responding said that they had received advice from their physicians as to their children's education. Only 2,071 directed them to other sources of information, which indicated that perhaps further publicity in medical channels about the availability of a correspondence course would be useful.

Seven hundred and forty-three of the 5,004 children in the sample also had other major handicaps, including cerebral palsy, partial sight, congenital heart diseases, and other disorders.

Completion of the Course

The information in the Correspondence Course files was not designed to yield an evaluation of the parents' success with the Course. Completion of the Course was one measurable criterion of success, but completion does not insure that the parents have been successful. They were, however, more likely to be successful than those parents who did not receive all 12 installments.

Cases are marked incomplete or cancelled in the files only when the parents fail to make their reports or when they request that the Course be discontinued. For parents who did not make any reports, the Course was continued for an average of four installments. A prompting letter was then sent to the family warning them that if the reports were not forthcoming, the Course would be discontinued. Because of the replies that the 2,329 prompting letters written by the staff elicited, the non-completed cases received, on the average, a total of six installments. As an indication of the relationship built up during the course, 450 of the families continued to write letters after the Course had been completed. A considerable number have continued their correspondence with the Clinic for several years.

Conforming with the Course design, 79% of the families who successfully completed the course did so in 11 or 12 months. Parents who completed the Course wrote on the average of slightly more than five reports to the Clinic. It was also noted that 1,023 of the cases actually did not write any reports. It is possible that many of these parents were merely curious about the Course, and not seriously interested in doing the necessary work.

The characteristics of the sample were examined in terms of completion and non-completion of the Course; that is, whether or not the parents sent in the necessary number of reports in order to receive all 12 installments. Of the 5,004 cases who had ample opportunity to complete the Course, 53% received 12 installments, while 47% were cancelled or discontinued with

TABLE 5. Per cent of families completing and not completing Correspondence Course according to age of child at time of application.

Age at Time of Application	*% Completing*	*% Not Completing*
Less than 2	14.8	8.3
2 – 3	33.9	29.9
3 – 4	28.2	31.1
4 – 5	13.4	18.3
Over 5	9.3	10.6
Not answered	0.4	1.8
Totals	100.0	100.0

TABLE 6. Per cent of families completing and not completing Correspondence Course according to size of residence community.

Size of Community	*% Completing*	*% Not Completing*
Under 500	4.5	4.2
500 – 5,000	14.8	15.3
5,000 – 10,000	7.2	7.7
10,000 – 100,000	26.2	27.5
100,000 – 300,000	8.5	7.9
Over 300,000	22.1	24.2
Outside U. S.	12.5	7.7
P. O. not listed	4.2	5.4
Totals	100.0	100.0

less than 12 installments. Many families requested that the Course be discontinued because the child went away to school, or because of the birth of a new baby.

In evaluating these figures, it must also be remembered that any parent, anywhere in the world, can be enrolled in the Correspondence Course merely by completing a simple application form. It is possible that many of the 47% who failed to complete the Course actually never got started. In fact, 43% of the families who did not complete the Course actually did not send in *any* reports. An additional 29% sent in only one report. It is only fair to consider the completion and non-completion figures in this light.

Parents living in foreign countries showed a slightly higher percentage of completion (64%) than did the total sample (53%).

Factors associated with successful completion of the course proved interesting. It appears from Table 5 that the younger the child at the time of application, the more likely the family is to complete the course. This would be in keeping with the initial intent to provide a course particularly suitable for the very young preschool deaf child.

As stated before, it was believed that the course would be maximally useful to parents living in small communities. It might be expected that in the larger communities more special educational services would have been available, thus reducing the demand for a correspondence course. This is not borne out by the figures in Table 6. It is evident from this table that the size of the community had little or no influence on the completion and non-completion figures.

It could be reasoned that when there were more children in the family, the parents would have less time to devote to the lessons. Table 7 shows there was

TABLE 7. Per cent of families completing and not completing Correspondence Course according to size of family.

Number of Other Children in Family	*% Completing*	*% Not Completing*
None	30.4	26.3
1	38.6	36.9
2	17.3	17.8
3	6.2	7.5
4	2.1	2.7
More than 4	1.3	1.9
Not answered	4.1	6.9
Totals	100.0	100.0

a slight tendency for more completions when there were no other children, or just one other child in the family. While this tendency was true for the entire group, there were, as the figures indicate, many families with several children who did complete the course.

No differences existed between the two criteria groups when considered on the basis of sex. The percentage of boys in the completion and non-completion groups was identical.

Some differences, however, showed up when the completion and non-completion groups were examined with respect to the father's occupation. For example, 45% of the successful cases had fathers who were in either major professional, minor professional, or white collar occupations, while only 35% of the unsuccessful cases had fathers who were in these same occupations. There are known correlations between intelligence and occupation (*1*), and it might be inferred that the more intelligent parents were more likely to succeed with the course. This is a tenuous finding, however, and needs to be substantiated.

There was little difference between the completed and non-completed cases in the occupation of the mother. Although very few mothers worked outside the home, the fact of working did not influence the percentage of completions and non-completions.

There seemed to be a slight tendency for more families in the middle and upper socio-economic groups to complete the course than in the lower socio-economic group. Eighty per cent of the families who completed the course were in the upper and middle groups, whereas 71% of the families who did not complete the course were in these categories. This finding would obviously be correlated with the preceding statements regarding the father's occupation.

The surprisingly large number of hard of hearing children who were enrolled in the correspondence course was noted previously. The suspicion that the course was more suitable for the severely deaf child was substantiated by finding that 56% of the group who completed the course were severely deaf as opposed to only 49% severely deaf in the non-completion group. While the differences were not large, they are in the direction of the expectation.

Summary

This report is a summary of a survey made to evaluate the experiences of 5,004 families enrolled in the John Tracy Clinic Correspondence Course. The course is open to all parents of preschool age children with hearing impairments. The information was obtained from parents' applications and subsequent correspondence. It has provided normative information not previously available on such a large sample of young deaf children.

In addition to the descriptive information, families who completed the course were compared with families who did not. It was found there were more completions if:

1. The family started the course when the child was three years or younger;

2. The deaf child was the only child or one of two children in the family;

3. The father's occupation was major professional, minor professional, or white collar;

4. The family was in the upper or middle socio-economic group;

5. The child was severely deaf rather than hard of hearing.

Factors that did not appear to influence the completion or non-completion of the course were: (1) The size of the community in which the parents lived; (2) The sex of the child; and (3) The occupation of the mother.

Appendix

Frequency Distributions for John Tracy Clinic Correspondence Course Survey

Sex:

(1) Boy	2762
(2) Girl	2222
(3) Twins	20
	5004

Age at time of application:

(1) Under 1 year	5
(2) 1-2 years	585
(3) 2-3 years	1603
(4) 3-4 years	1479
(5) 4-5 years	785
(6) 5-6 years	367
(7) 6-7 years	73
(8) 7-8 years	24
(9) 8 years and over	31
(0) No Answer	52
	5004

Location at time of application:

(1) Los Angeles County	271
(2) Other California localities	474
(3) Northwest: Wash., Ore., Idaho, Mont., Utah, Colo.	356
(4) Central: Neb., Kan., Okla., Tex., Iowa, Mo., Ark.	670
(5) Southern: Fla., Ga., Ala., N. C., S. C., Va., W. Va., Tenn., Ky., Miss., and La.	532
(6) Eastern: Penna., Md., D. C., Ohio, Del.	504
(7) New England: Maine, N. H., Vt., Mass., Conn., N. Y., N. J., R. I.	756
(8) North Central: N. D., S. D., Minn., Wisc., Mich., Ill., Ind.	850
(9) Southwest: Ariz., New Mex., Wyo., Nev.	76
(0) Non-United States	515
	5004

Foreign Residence:

(1) England, Scotland	41
(2) Continent: France, Germany, Spain, Holland, Switzerland, Yugoslavia, Portugal	21
(3) Scandinavian countries	32
(4) Africia: Egypt, Ethiopia, Morocco, Tunisia	15
(5) Asia: Israel, Palestine, China, India, Indonesia, Malaya, Turkey, Thailand	12
(6) South and Central America, Mexico, Haiti	35
(7) Alaska, Hawaii, Bermuda, Puerto Rico	29
(8) Canada	268
(9) Australia, New Zealand, Philippines, BWI, Fiji	62
(0) United States	4489
	5004

Size of town of residence in U. S. (at time of application):

(1) Under 100	26
(2) 100 to 500	193
(3) 501 to 1,000	167
(4) 1,001 to 5,000	585
(5) 5,001 to 10,000	371
(6) 10,001 to 100,000	1341
(7) 100,001 to 300,000	412
(8) Over 300,000	1156
(9) Not in United States	515
(0) Not listed in Atlas	238
	5004

Father's occupation:

(1) Major professional and large business owner	207
(2) Minor professional and small business owner and farmer	1123
(3) White collar, clerical, salesman	675
(4) Blue collar, clerks, foreman	373
(5) Skilled laborer, journeyman	798
(6) Semi-skilled laborer	787
(7) Unskilled laborer	321
(8) Unemployed, disabled, pensioned, part time	150
(9) Military	284
(0) No Answer, or deceased	286
	5004

Mother's occupation:

(1) Housewife	3683
(2) Clerical, full time	76
(3) Clerical, part time	13
(4) Unskilled, full time	71
(5) Unskilled, part time	19
(6) Semi-professional and professional, full time	86
(7) Semi-professional and professional, part time	22
(8) Housewife in application; starts to work during course	1
(0) No Answer	1033
	5004

Socio-Economic Status:

(1) Upper	58
(2) Middle	3707
(3) Lower	788
(4) No Answer	451
	5004

Number of other children in family:

(1) One	1891
(2) Two	876
(3) Three	341
(4) Four	120
(5) Five	45
(6) Six	24
(7) Seven	9
(8) Eight	2
(9) None	1424
(0) No Answer	272
	5004

Ordinal position of child (at time of application):

(1) Only	1436
(2) Oldest of two or more	998
(3) Youngest of two or more	1676
(4) Middle of three or more	615
(5) Twin	20
(0) No Answer	259
	5004

Sex distribution of children in family (living at home since child was 2 years old.):

(No younger siblings):

(1) Older siblings, same sex as x	669
(2) Older siblings, different sex	657
(3) Older siblings, both sexes	370

(No older siblings):

(4) Younger siblings, same sex as x	486
(5) Younger siblings, different sex	445
(6) Younger siblings, both sexes	67

(Both older and younger siblings):

(7) All siblings same sex as x	108
(8) All siblings different sex from x	92
(9) Siblings of both sexes	415
(0) Only child	1695
	5004

Has there been an audiometer test?

(1) Yes	1997
(2) No	1846
(3) Not at time of application but taken after course started	9
(4) No Answer	1152
	5004

Degree of deafness:

(1) Hard of hearing, approx. 30 to 65 db loss	1504
(2) Severely deaf, approx. 65 to 90 db loss	596
(3) Profoundly deaf, approx. 90 to 100 db loss	2050
(0) No Answer	854
	5004

Type of deafness:

(1) Nerve deafness: hereditary	1119
(2) Acquired: prenatal	349
(3) Natal	236
(4) Postnatal	998
(5) Conductive deafness	60
(6) Aphasia	15
(7) Unknown	1683
(0) No Answer	544
	5004

Age of child at onset:

(1) Birth	2477
(2) 0-6 months	330
(3) 7-12 months	403
(4) 13-18 months	251
(5) 19-24 months	183
(6) 25-30 months	96
(7) 31-36 months	70
(8) Fourth year and over	52
(9) Unknown	583
(0) No Answer	559
	5004

Had child received specialist treatment at time of application?

(1) Yes	715
(2) No	3127
(0) No Answer	1162
	5004

Type of specialist treatment received at time of application:

(1) Osteopathic	28
(2) X-Ray, radium	142
(3) Tonsil and adenoids	373
(4) Removal of wax	15
(5) Surgery	27
(6) No treatment received	3127
(7) Other than those listed	130
(0) No Answer	1162
	5004

What seemed to indicate loss of hearing?

(1) Failure to hear loud sounds	677
(2) Failure to develop speech	768
(3) No response to voice	1185
(4) Reason other than above	283
(0) No Answer	2091
	5004

Other handicaps:

(1) Cerebral palsy	93
(2) Aphasia-Dysphasia	34
(3) Partial sight	78
(4) Blind	6
(5) Physical involvements	394
(6) Congenital heart disease	93
(7) Mentally retarded	24
(8) Yes, but not given	21
(9) None	3911
(0) No Answer	350
	5004

Did you receive advice from your physician as to the child's education?

(1) Yes	2492
(2) No	1024
(0) No Answer	1488
	5004

Did your physician know the names of schools for the deaf near you?

(1) Yes	2340
(2) No	955
(0) No Answer	1709
	5004

Did he mention the teaching of speech?

(1) Yes	2619
(2) No	772
(0) No Answer	1613
	5004

Did he direct you to other sources of information?

(1) Yes	2071
(2) No	1258
(0) No Answer	1675
	5004

Did the parents have previous knowledge about deafness and the education of the deaf?

(1) Yes	253
(2) No	3093
(0) No Answer	1658
	5004

Is the child in school?

(1) Yes	639
(2) No	3468
(0) No Answer	897
	5004

Has the child had private instruction?

(1) Yes	371
(2) No	3372
(0) No Answer	1261
	5004

Who referred parent to the Clinic?

(1) Physician, or pediatrician	731
(2) Specialist, otologist	623
(3) Speech clinic or school, or school personnel	1407
(4) Friend or relative	479
(5) Magazine article	200
(6) Clinic literature	10
(7) Nurse	47
(8) Hospital	208
(9) Other source than listed above	327
(0) No Answer	972
	5004

Was quinine administered to mother during pregnancy or labor?

(1) Yes	189
(2) No	3233
(0) No Answer	1582
	5004

Did mother have German Measles during pregnancy?

(1) Yes	286
(2) No	3328
(0) No Answer	1390
	5004

Was birth normal?

(1) Yes	2790
(2) No	809
(3) Adopted	72
(0) No Answer	1333
	5004

If not normal, type of difficulty:

(1) Premature	217
(2) Breach	101
(3) Caesarian	131
(4) Instrument	265
(5) Type of difficulty not given	61
(6) Normal birth	2790
(7) Reason other than those listed	54
(0) No Answer	1385
	5004

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Recognition Of Intelligibility Test Materials In Context And Isolation

John J. O'Neill

Miller, Heise, and Lichten (*4*) have investigated the effects of context and isolation on the relative recognition of intelligibility test items. They found that words from a specific vocabulary, when taken out of context and arranged in random order, became more difficult to recognize aurally. The investigation employed the Harvard Sentence Intelligibility lists, which were developed to assist in the evaluation of communication networks (*2*). In an earlier study, Egan (*2*) investigated the relationship between sentence intelligibility scores and individual word intelligibility scores. He found that at an intensity where listeners were able to recognize correctly 80 per cent of a sentence list, they were able to recognize correctly only 50 per cent of a word list.

The purpose of the present study was to determine if similar results could be obtained with another type of sentence intelligibility test and a larger experimental population than in the study by Miller, *et al*, which made use of only two experienced listeners. The experimental subjects who participated as listeners in this investigation did not have previous experience in responding to intelligibility test items.

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Method

Thirty-nine Naval Aviation Cadets enrolled in pre-flight training at the Naval Air Station, Pensacola, Florida, served as experimental subjects. There were three panels of listeners with 13 members per panel.

Fifty sentences that were originally items in a short-answer intelligibility test were employed as write-down test items. These sentences were developed by Haagen (*1*) at the Waco Voice Communication Laboratory. The test sentences were made up of paraphrases of items from low-age intelligence tests, other short answer intelligibility tests, and original items. Each of the tests in the Waco lists (groups of 15 sentences) were of equal difficulty as determined by standardization scores. In the original test, listeners responded by writing down answers to the test questions. In this study, listeners wrote the entire sentence or whatever words they heard. The sentences were divided into five sections, with 10 sentences to a section. Each section was presented at a different speech-to-noise ratio.

Selected key words from these sentences were assembled into a word recognition test. These test items consisted of all words in the sentences with the exception of prepositions, connectives, and possessive adjectives. They were taken out of context, randomized, and presented as single items which were distributed into five sections corresponding to the sentence groupings from which they were drawn. Each word was used once; there was a total of 291 words. The sections consisted of (a) 76 words, (b) 51 words, (c) 54 words, (d) 56 words, and (e) 54 words. Phonetic composition of the words was not similar. There were 156 monosyllables, 98 disyllables, and 32 trisyllables. Six of the words contained more than three syllables. The syllabic composition of the words in each section was as follows: (a) 55 monosyllables, 18 disyllables, 3 trisyllables; (b) 23 monosyllables, 16 disyllables, 10 trisyllables, 2 with more than three syllables; (c) 26 monosyllables, 20 disyllables, 5 trisyllables, 3 with more than three syllables; (d) 24 monosyllables, 22 disyllables, 9 trisyllables, 1 with more than three syllables; and (e) 28 monosyllables, 22 disyllables, 4 trisyllables. Each section was presented at a speech-to-noise ratio that corresponded to the ratio used when the items were presented in a contexual setting.

An Ampex 400 tape recorder and an Altec 21-B microphone were used to record the test materials on magnetic tape. The recordings were played back to the listening panels through a high quality listening circuit. Each subject wore a pair of PDR-8 earphones, mounted in doughnut cushions. The materials were delivered at an initial voltage level (as measured at the earphones) which corresponded to

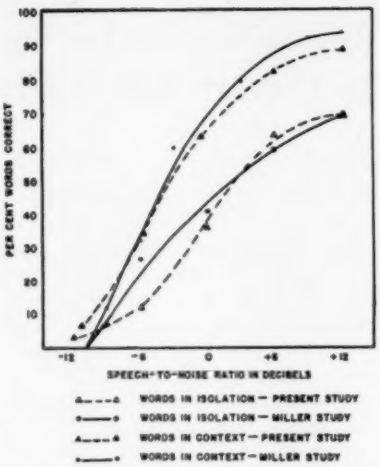

FIGURE 1. Plotting of intelligibility scores for words in context and isolation.

an acoustic level of 105 db re .0002 dynes/cm.^{2} The listeners were simultaneously exposed to ambient, recorded aircraft noise. The level of the noise, as measured under the earphones, was 105 db re .0002 dynes/cm^2. Thus, there was an approximate speech-to-noise ratio of zero db. From this basic reference level, four other speech-to-noise ratios were established. These were, −12 db, −6 db, +6 db, and +12 db. The speech-to-noise ratio was varied by changing the signal level in reference to the constant noise level. Subjects recorded their responses on write-down answer sheets.

Results and Discussion

Figure 1 graphically portrays per cent words correct obtained under the various speech-to-noise ratios in this study and the Miller, Heise and

TABLE 1. Mean correct scores for words in *context* and words in *isolation.*

S/N Ratio	*Context Mean*	*Isolation Mean*
− 12 db	2.90	1.97
− 6 db	14.98	5.63
0 db	29.48	16.22
+ 6 db	37.57	28.82
+ 12 db	40.76	32.56

Lichten (*4*) study. In the instance of context the differences between the two studies are small, and only at the +6 db and +12 db speech-to-noise ratio do the values differ. These differences amounted to about three per cent, with the higher score being obtained in the earlier study.

The scores for words in isolation showed a marked difference at the −6 db speech-to-noise ratio and a slight difference at the +6 db speech-to-noise ratio. Miller, *et al*, (*4*) found an intelligibility value of about 28 per cent at the −6 db level which is approximately 15.5 per cent greater than the score obtained in this investigation. At the +6 db speech-to-noise ratio the obtained score for the present study was about six per cent greater. Further investigation of Figure 1 reveals that in both studies context contributed very little to intelligibility at the −12 db speech-to-noise ratio. There is only a two per cent difference between context and isolation at this point. At the other four ratios there are differences which range from 19 per cent to 26 per cent. Miller, *et al*, (4) report a difference of only six per cent at the −6 db speech-to-noise ratio while the value obtained in this study is close to 23.5 per cent. This difference is due, in part, to the much lower score obtained for words in isolation in the present study. It would then appear that from a speech-to-noise ratio of −6 db on up through the more favorable speech-to-noise ratios, context contributed at least a 20 per cent increase in intelligibility score. These results are in agreement with Egan's (*2*) findings.

Egan (*2*) reported the threshold point (50 per cent of words correct) at +4 db for the words in isolation and at −2 db for the words in sequential context. In the present study these threshold points occurred at +4 db and −3 db. The thresholds are quite similar.

Apparently both experiments evaluated a rather 'stable' phenomenon. Approximately comparable results were obtained with an entirely different vocabulary, a higher noise level, a population of words with a different syllabic make-up, and a larger, untrained group of listeners.

Aside from a comparison of the results of two related studies, a principal interest lies in comparing the scores of words in context and in isolation. The mean correct scores (raw scores divided by listeners) are enumerated in Table 1. As is evident, the greatest difference between mean scores for the same words in context and isolation occurred at the point at which the speech and noise were at similar levels with an apparent consistent difference being maintained from this point through the most favorable speech-to-noise ratios.

TABLE 2. Product moment correlations between words in *context* and words in *isolation.*

Speech-to-Noise Ratio				
−12 db	−6 db	0 db	+6 db	+12 db
.42	.24	.42	.04	.09

The stability of the intelligibility scores of individual words was a further concern in this study. Item intelligibility values were computed for the words in context and in isolation. These values were correlated and the values of r are enumerated in Table 2. The obtained r's indicate no apparent relationship between the two sets of values at three of the speech-to-noise ratios. However, the observed r's for the −12 db and 0 db speech-to-noise ratios indicate an apparent relationship between the two sets of values. Therefore, it may be tentatively hypothesized that at three of the speech-to-noise ratios, various words contribute in differing amounts to the development of context and isolation scores. Apparently certain words are understood more frequently when they are in a contextual setting, while others are misunderstood more frequently in such a setting. An inspection of the scores indicates that random association (lack of correlation) increases as the speech-to-noise ratio becomes more favorable. Apparently, although one vocabulary is being used, it has different applications under conditions of context and isolation. It may be that words have context intelligibility values as well as isolation intelligibility values.

Summary

Thirty-nine experimental subjects listened to 50 sentences and 291 words. The sentences were part of a standard sentence intelligibility test, and the words were taken out of the context of these same sentences. These materials were presented at five speech-to-noise ratios. Comparisons were made of the recognition of words in context and in isolation. The results of the study indicate that intelligibility scores for isolated words tend to be lower than when the words are presented in context. This difference ranges from 19 per cent to 26 per cent for speech-to-noise ratios of −6 db, 0 db, +6 db and +12 db. Apparently the intelligibility scores obtained for each grouping of words (context and isolation) are not due to the same words being recognized with a similar frequency under both conditions.

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Recruitment In Ears With Abrupt Loss Of Acuity For High Frequencies

LeRoy D. Hedgecock

The measurement of auditory recruitment of loudness has attracted considerable attention during the past few years. Much of this attention is due, no doubt, to the clinical value of the recruitment tests. Many otologists use these tests as aids in diagnosing the type of deafness and in evaluating the effectiveness of treatment. Audiologists use recruitment as an index to tolerance for, and discrimination of, amplified sound and hence as a means of evaluating hearing aids.

Some of the interest in recruitment probably arises from the controversial nature of the phenomenon and of the technics of measuring it. Since Fowler (*5*) first described and labeled recruitment in 1928, there have been numerous attempts to explain the disorder on anatomic and physiologic grounds. Although there is substantial agreement on the clinical significance of recruitment, considerable doubt still remains as to the exact organic nature of the disorder. The findings of Dix, Hallpike and Hood (*3*) and of Eby and Williams (*4*) have strongly indicated that recruitment is characteristic of disease in the auditory end-organ rather than in the auditory nerve as Fowler had assumed. Judging from the disagreement that still exists it would seem that no explanation yet proposed is entirely satifactory to all who have observed the manifestations of recruitment.

A variety of technics have been proposed as tests of the loudness function of human ears. The scope of this paper does not permit a review of these technics, but reference is offered to a recent article (*6*) in which the measurement of auditory recruitment is reviewed from both the historic and current points of view.

The present study developed from clinical observations on the relative performance of the two ears of certain patients with unilateral Ménière's disease. It was noted that in many cases in which the unaffected ear sustained a loss of acuity for high frequencies comparable to the loss in the diseased ear, the loudness function of the two ears for those tones was similar. In order to substantiate this observation, a study was undertaken of a series of cases in which both the otologic diagnosis and the audiometric data were similar.

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A matter of secondary interest that arose was that of comparing the data obtained by equal loudness balance tests with that on variations in the difference limen for intensity. It is felt that this comparison may be pertinent to the question of whether or not the difference limen is a valid test of loudness recruitment.

Subjects

Twenty-two patients were selected for the study. The criteria for selection were a diagnosis of Ménière's disease in one ear, with reduced acuity of hearing for all tones in that ear at the time of examination, and an abrupt loss of acuity for high frequencies in the other ear. Twenty-one of the patients were men; the other patient was a housewife, 25 years of age. The men ranged in age from 38 to 75 years with the average age at 55 years. The occupations of the men varied widely, with several professions, businesses, and skilled trades represented. It may or may not be significant that only one patient was a woman.

In 12 patients, Ménière's disease was active in the left ear and in 10 of them it was active in the right ear at the time of examination. The selection of cases was designed to produce a unified pattern of data and as such is not expected to bear a significant relationship to data from other types and patterns of deafness.

Procedure

Each patient underwent otologic and audiologic examinations. The diagnosis of Ménière's disease was based on the history as well as on the immediate symptoms. The audiometric data obtained in each case consisted of a pure-tone audiogram, a test of binaural loudness balance, a determination of the difference limen for intensity at 10 and 40 db above threshold, and a series of speech-reception tests. The audiograms were made in the usual way with both air-conduction and bone-conduction thresholds recorded for each ear.

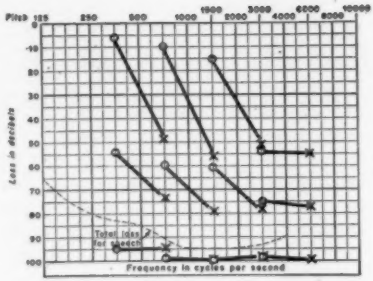

FIGURE 1. Composite results of the binaural loudness balance test.

o——— Better ears

x——— Poorer ears

Measurements of binaural loudness balance were made at two levels above threshold for the tones at 500, 1000, 2000 and 4000 cps. In this test one tone at a time was presented to the patient's poorer ear at an arbitrary level (usually 20 or 30 db) above threshold. Then the same tone was presented to the better ear and adjusted in intensity until the loudness seemed the same in each ear. The tone could be alternated quickly from one ear to the other until the necessary intensities were found for a judgment of equal loudness in the two ears. The same procedure was followed again for each tone at a higher intensity (usually at or near 100 db). Results of this measurement were recorded on an audiogram chart in the familiar manner illustrated in Figure 1.

The difference limen (DL) for intensity was measured at 10 and 40 db above threshold in each ear for the tones 500, 1000, 2000 and 4000 cps. These measurements were made according to the technic suggested by Lüscher and Zwislocki (*9*) and interpreted according to the principles discussed by Denes and Naunton (*2*). A steady tone was presented at the prescribed intensity, then progressive amplitude modulation was introduced to the point where the patient reported hearing a fluctuation or pulsation in the tone. Determinations were made to the nearest 0.25 db and the average of three trials was taken as the measured value. The amount of amplitude modulation was controlled manually by the examiner. It approximated an increase of 0.25 db per second.

For the purpose of comparing values and interpreting the significance of the DL measurements, the difference in DL was computed by subtracting the DL obtained at 40 db from that obtained at 10 db as proposed by Jerger (*8*). These values were plotted on a chart as illustrated in Figure 2.

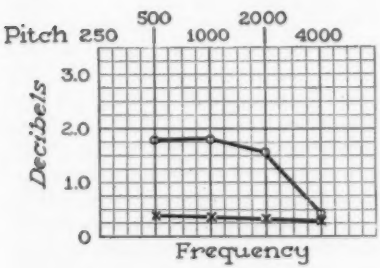

FIGURE 2. Average difference in difference limen at 10 and 40 db.

o———o Better ears
x———x Poorer ears

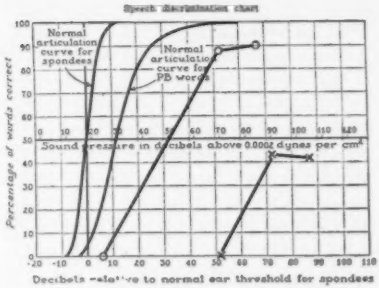
Normal articulation curve for spondees
Normal articulation curve for PB words
Percentage of words correct
Sound pressure in decibels above 0.0002 dynes per cm²
Decibels relative to normal ear threshold for spondees

FIGURE 3. Average scores for speech reception tests.

o———o Better ears
x———x Poorer ears

SRT = 8	SRT = 53
MCL = 52	MCL = 72
TD = 109	TD = 103

The standard clinical tests of hearing for speech were given to each patient. The scores obtained for each ear separately included the speech-reception threshold for spondaic words (SRT), the level of most comfortable loudness for listening to speech (MCL), the threshold of discomfort for speech (TD) and percentage scores on the Harvard phonetically balanced words (PBS) administered at the MCL and at 15 db above the MCL. These scores were recorded on the familiar intelligibility chart as illustrated in Figure 3.

All of the auditory tests in this series were conducted in a sound-treated room in which the ambient noise level is approximately 30 db above .0002 dynes per square centimeter. The pure-tone audiograms and tests of loudness balance were made with a Maico E-2 audiometer which has two channels with an attenuator for each channel. Tests of difference limen were made with a Maico MA-1 audiometer which is equipped with an

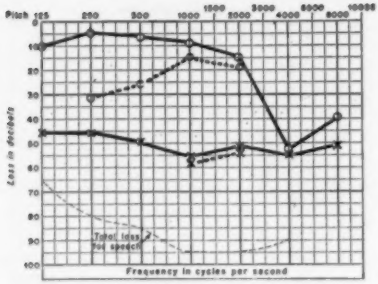

FIGURE 4. Composite audiogram of 22 patients.

o————o A.C. better ears
x————x A.C. poorer ears
o.....o B.C. better ears
x.....x B.C. poorer ears

amplitude modulator that introduces a controlled pulsation to the test tone. Tests of speech reception were administered by a monitored live voice through a two-room amplifying system in which intensity was controlled in decibel units. Speech signals were delivered to the patient in one ear at a time through PDR-10 earphones. Responses were given orally and carried back to the examiner through a separate amplifier.

Results

The high degree of uniformity in most measurements on the patients studied at the Mayo Clinic suggested the feasibility of presenting the results in simple composite charts using the average scores of the better and poorer ears of all 22 patients. It is hoped that these charts are familiar enough to be understood readily, and it is felt that the findings are clear enough to be interpreted without further statistical treatment. It must be borne in mind that the averages of the right and left ears of each patient are not being used, but that rather the averages of the better ear and poorer ear of each one are used. With this in mind, a look at the composite audiogram in Figure 4 reveals the circumstances mentioned as criteria for the selection of patients. That is, the better ears show normal acuity for low and middle frequencies with a sharp drop in acuity at 4000 cps. The poorer ears show a moderate loss of hearing for all frequencies. The thresholds at 4000 cps are essentially the same for both groups of ears.

The thresholds for bone conduction are approximately at or below those for air conduction for all tones in both ears. A striking feature of the curve for bone conduction of the better ears is its distinct drop below the curve for air conduction in the low frequencies. This characteristic has been observed in essentially all of the audiograms for patients with unilateral Ménière's disease. It is noticeable, too, that bone conduction was not measurable at 250 and 500 cps in most of the poorer ears nor at 4000 cps in either group of ears.

Some discrepancy between thresholds for air conduction and bone conduction at 250 and 500 cps is characteristic of all normal ears tested with the particular audiometer and bone vibrator used in this series. It is assumed that the masking effect of room noise is greater when the ears are not covered, as is the case during testing by bone conduction, than when they are covered with the earphones used in testing by air conduction. This assumption is attested to by the fact that in cases of pure conductive deafness the same equipment measures these tones at or near zero decibel by bone conduction.

The reason for an exaggerated degree of difference in air conduction

and bone conduction in the low frequencies for the better ears of patients with unilateral Ménière's disease is not clear. It may be that it pertains to the relative effects of tinnitus under the two conditions of testing, but the complete mechanism is not explained by present observations.

Figure 1 shows the composite results of the binaural loudness balance test. It may be seen that frequencies of 500, 1000 and 2000 cps show the typical pattern of recruitment in the poorer ears as compared to that of the better ears. That is, it takes significantly less increase of intensity above threshold in the poorer ears than in the better ears to produce equal loudness. At 4000 cps the increase of intensity and of loudness is symmetrical in the two groups of ears. Frequently this condition is interpreted as indicating no recruitment. It is obvious, however, that it also may indicate equal recruitment in the two ears. The latter situation undoubtedly is the case in this instance. Since clear evidence of recruitment in the poorer ears at 500, 1000 and 2000 cps is noted, it appears certain that 4000 cps with a comparable threshold will show recruitment also. It follows then that the better ears exhibit recruitment at 4000 cps to the same degree as do the poorer ears.

To further confirm this conclusion, each patient was asked to compare the loudness of tones at 1000 and 4000 cps presented alternately each at 100 db in the better ear. In every instance the tone at 4000 cps was judged to be as loud as or louder than the tone at 1000 cps.

The greatest difference of intensity for equal loudness of the two ears at the upper level for the tone of 500 cps was 10 db. This occurred for only one patient. In all other patients the maximal loudness at 500 cps was matched within 5 db for the two ears. At 1000 cps two patients noted a variation of 10 db at maximal loudness; all other patients matched loudness within 5 db. At 2000 cps the difference in intensity at maximal loudness was 15 db or less for all patients. At 4000 cps no pair of ears in the series varied more than 5 db in intensity for equal maximal loudness.

In Figure 2, the differences in DL at 10 and 40 db above threshold tend to show the same relationship between the two groups of ears and between the several tones as demonstrated by the measurements of loudness balance; that is, recruitment is indicated by a small difference in DL for all four tones in the poorer ears and for 4000 cps in the better ears. Absence of recruitment is indicated by the relatively large difference in DL of the better ears for tones at 500, 1000 and 2000 cps.

The raw scores of the DL measurements showed considerable variation from patient to patient with some overlapping of the values in better and poorer ears. For instance, the DL for 1000 cps at 10 db above threshold ranged from 1.50 to 3.75 db in the better ears and from 0.50 to 2.000 db in the poorer ears. The range of DL for 1000 cps at 40 db above threshold was from 0.50 to 1.75 db in the better ears and from 0.25 to 1.50 db in the poorer ears. When difference in DL at 10 and 40 db was computed, the variation was reduced so that there was no overlapping of the scores in the better and poorer ears for tones of 500 and 1000 cps. For 500 cps the differences in DL ranged from 1.00 to 2.75 db in the better ears and from 0 to 0.75 db in the poorer ears. For 1000 cps the differences ranged from 1.25

to 2.50 db in the better ears and from 0 to 0.75 db in the poorer ears. For 2000 cps the range was from 0.25 to 2.50 db in the better ears and from 0 to 0.50 db in the poorer ears. For 4000 cps the difference in the better ears ranged from 0 to 0.50 db and in the poorer ears, from 0 to 0.50 db.

Results of the tests of speech reception may be seen in Figure 3. It will be noted that all scores of the better ears are within the limits expected of normal ears while all those of the poorer ears deviate distinctly from normal. In tests of speech reception, the distinctive features associated with recruitment are abnormally narrowed ranges between SRT, MCL and TD, and markedly lowered discrimination scores. These features were present to some degree in each of the poorer ears as well as in the averages shown here. The range of thresholds for speech in the poorer ears was from 35 to 65 db, and the range of discrimination scores was from 18 to 82 per cent. These wide variations are deceiving since they result from almost isolated cases at the extremes while most of the scores were grouped closely around the means. In the better ears, the variation was decidedly less, being from 0 to 15 db for the thresholds for speech and from 82 to 96 per cent for the discrimination scores.

Discussion

A question arises in regard to the etiology of the impairment in the better ears. Unfortunately, the diagnoses did not answer this question conclusively. In some of the older patients, the etiology might be assumed to be presbycusis. In fact, Pestalozza and Shore (*10*) stated that it would not be unusual to find some instances in which presbycusis is accompanied by recruitment. In certain cases acoustic trauma would seem a logical explanation; de Bruine-Altes (*1*) found recruitment characteristically present in cases of traumatic perceptive deafness. In several cases information was not gained from either the history or the examination to account for the condition.

If the reasoning of Dix, Hallpike and Hood (*3*) is followed, the conclusion would be that whatever the causes may have been, all of these abrupt losses for high frequencies are manifestations of end-organ lesions rather than nerve lesions. This might raise the question of whether or not much of the high-tone deafness that is prevalent is the result of damage to the end-organ rather than to the auditory nerve. It is apparent that this question warrants further investigation.

It is felt that this study is not conclusive in evaluating the validity of the difference limen as a measure of recruitment. Several obvious factors limit the reliability of these observations. Within the limitations imposed by the scope and methods of the study, however, the results suggest a definite relationship between recruitment as measured by the binaural loudness balance test and the shift in difference limen as intensity is changed. At the same time the evidence tends to support the observation of Denes and Naunton (*2*), that wide individual differences make it extremely difficult to interpret the difference limen obtained at a single intensity.

There does not appear to be a clear explanation for the discrepancy in these findings and those of Hirsh, Palva, and Goodman (7) who did not find a significant relationship between

difference limen and recruitment. It is probable, however, that the differences in technics of measuring difference limen may have produced some variation in results. It would seem logical also that the criteria for selection of patients might account for the relationship indicated in the present study and absent in the wider sampling of types of deafness represented in the study of Hirsh, *et al.* At any rate, it is evident that the role of the difference limen in clinical evaluation of deafness is not stabilized.

Summary

Results have been presented of audiometric measurements on 22 patients having unilateral Ménière's disease accompanied by a marked loss of acuity for high frequencies in the opposite ear. The findings point consistently to the presence of auditory recruitment for all tones tested in the diseased ears and for the tone at 4000 cps in the better ears. The tests of binaural loudness balance and of difference limen for intensity showed the same basic relationship between the better and poorer ears and between the several tones used. It was found that reception for speech was seriously impaired in the diseased ears and only slightly affected by the loss for high frequencies in the better ears.

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Analysis Of Speech Defects Among The Institutionalized Mentally Retarded

Bernard B. Schlanger

Robert H. Gottsleben

The mentally retarded may range in functional level from the helplessly dependent, completely lacking in all means of expressive communication, to the moron and borderline cases, with no speech defects. Aberrant speech in itself may be a symptom of the same underlying etiology causing the mental deficiency. On the other hand, the deviated speech may stem from factors wholly unrelated to those resulting in the symptoms of retardation. Defective speech may even augment the mental retardation by adding communication and emotional problems to an already handicapped existence. As mental retardation is not an entity, but results from a constellation of many factors, it would seem to be superficial to diagnose a speech defect or delayed speech as caused by mental retardation. For example, a child with congenital cerebral maldevelopment may have as sequelae all, or any combination, of the following: a crippled condition, intellectual deficit, symbolic disorders, and dysarthric speech. Mental retardation in such a child could hardly be designated as the cause of the speech disorder.

Mental retardation and speech defects often occur in concert. Previous surveys of speech defectiveness among retarded children indicated that 55 to 66 per cent had speech deviations (*5*). Detailed information on speech symptoms has been presented by Kennedy (*3*) and Schlanger (*4*). The incidence of speech problems in the various etiological groups subsumed under the broad heading of mental retardation has not been previously noted. In order to investigate this as well as to indicate the manifold speech problems in an institutionalized retarded population, a study was made of the incidence of speech defects in the total population and in clinical types of mental deficiency among the residents of The Training School.

Subjects and Procedure

The speech of the entire population of 516 residents at The Training School was analyzed. There were 377 males and 139 females. Their C.A. mean was 28.9 years; the S.D. was 17.3. The M.A. mean was 7.8 years; the S.D. was 3.0

Certain limitations on the population were present. It did not represent

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all etiological groups or the hypothecated proportions of these groups among the retarded. Further, the admission requirements of The Training School were, in themselves, limitations.

Speech diagnoses given yearly over a period of five years by the authors formed the basis of the speech evaluations. Both had given diagnostic examinations to and prepared reports on every resident of The Training School at least once and in most cases, several times. In addition, over 125 of the children were seen in regularly scheduled individual or group therapy. Furthermore, most of the residents were seen frequently in informal situations.

Descriptive ratings were made for deviations of articulation, voice characteristics, and rhythm. The diagnostic examination indicated whether the articulatory problem was entirely, or in part, dysarthric (motor difficulty due to CNS impairment) or dyslalic. Articulation was also rated numerically on five levels. Articulation within normal limits was given a rating of *five*; intelligible articulation with slight defects which did not affect oral communication was indicated by a *four*; *three* showed that speech was intelligible but that frequent errors obscured the meaning; *two* designated speech that was intelligible only if the response was anticipated, and *one* signified that speech was unintelligible with most sounds severely defective or that the subject was mute.

Voice deviations were given broad descriptive designations. No ratings were attempted on vocal characteristics. Descriptive terms were also applied to stuttering patterns: clonic, tonic, and secondary reactions.

All descriptions and levels of speech defects of each subject were mutually decided by the authors. Since both have had five years of clinical speech experience with retarded children as well as additional years with normal children, the reliability of the two examiners was considered adequate. Previous studies have indicated a high degree of reliability among judges who are trained and experienced (*1*), (*2*).

The clinical classification of the residents of The Training School follows the National Committee for Mental Hygiene list (7) as required by the New Jersey Department of Institutions and Agencies and the United States Census Bureau. The code numbers and the etiological classifications of mental retardation are as follows:

0. Undifferentiated
1. Familial
2. Mongolism
3. With developmental cranial anomaly
4. With congenital cerebral spastic infantile paraplegia
5. Due to infection
6. Due to trauma during birth
7. Due to trauma after birth
8. Due to epilepsy
9. With glandular disorder
10. With familial amaurosis
11. With tuberous sclerosis
12. With other organic nervous disease
13. Mixed
14. Other Forms
15. Not Mentally Retarded

The above classifications were modified as follows for the purposes of this study. Those whose etiologies indicated a central nervous system impairment were grouped under Organic (these included cases in classifications 3 through 12). The Undifferentiated category consisted of individuals who could not be placed under any of the above clinical types. They were not differentiated either by symptomatology, pathogeneses, or cause. The Other Forms group included cases

sufficiently distinctive in symptomatology to be classified under some clinical entity other than those given above, such as mental retardation with psychosis, psychoneurosis, or psychopathic personality. Not Mentally Retarded included subjects admitted as mental retardates who upon later examination were found not to be retarded even though functioning on a subnormal level. Those whose classification had not been completed were included in the No Etiology group.

Results and Discussion

Varying types and levels of speech defectiveness were apparent in 408 (79%) of the 516 residents. This figure of 79% is much higher than previously reported in speech surveys of large groups of the retarded (5). The nature of the population at The Training School may partially explain this high figure. Various estimates have indicated that the Familial group comprises between one-third and one-half of all mentally retarded children. The Familial group at The Training School was only 12 per cent of the school population. Another reason for the high incidence of defective speech might be a changing, more dynamic philosophy regarding present day habilitation. The policy of prolonged institutional residence in the case of those with higher potential is being replaced by a policy of community placement when expedient. As a consequence, the population trend in institutions is shifting toward a lower grade, multiple handicapped resident. Thus, speech defectiveness among institutionalized retardates can be expected to be more extensive in the future.

The incidence and types of speech defects are given in Table 1. A total of 400 subjects (78%) had articulatory errors ranging from slight inconsistent deviations to severe distortions, omissions, and substitutions. It is interesting to note that practically all the subjects with voice and stuttering defects had, in addition, some degree of articulatory impairment. Many whose speech was dysarthric also had dyslalic consonant errors. Good articulation was prevalent in only 116 subjects.

The high incidence of dyslalic errors can be explained in part by

TABLE 1. Incidence and types of speech defects of The Training School population (N=516)

Defect	*Total**	*Total Per Cent*
Total of all subjects with defects	408	79
Articulation	400	78
Dyslalia		
1	21	
2	40	
3	83	
4	196	
Dysarthria		
1	31	
2	50	
3	39	
4	55	
Normal (5)	116	22
Voice	240	47
horse-husky	60	
aspirate	22	
hypernasal	62	
hyponasal	14	
pitch	40	
sing-song	9	
monotone	15	
rate	73	
volume	33	
Stuttering	89	17
clonic	82	
tonic	51	
secondary reactions	24	

*Total defects exceed N as many subjects have multiple speech defects. The subgroup totals also exceed articulation, voice, and stuttering group totals. For example, many subjects are included under both dyslalia and dysarthria.

TABLE 2. Speech defects in clinical types of mental retardates.

Etiological Classification	*N*	*Articulation*	*%*	*Voice*	*%*	*Stutter*	*%*	*No Speech*
0 Undifferentiated	137	110	80	62	45	18	13	–
1 Familial	64	42	66	14	22	6	10	–
2 Mongolism	44	42	95	32	72	20	45	1
3–12 Organic	189	159	84	106	56	35	18	4
13 Mixed (F–O)	18	17	94	6	33	2	11	–
14 Other Forms	20	16	80	9	45	3	15	–
15 Not Mentally Retarded	26	11	42	10	38	3	12	–
No etiology	18	3	17	1	6	2	11	–
Total	516	400	78	240	47	89	17	–

environmental influence, low standards of self-criticism, and poor listening habits. The large percentage of hearing loss usually found among retardates undoubtedly contributed to the poor articulation (*6*). Voice disorders were found in 240 subjects (47%).

Eighty-nine subjects (17%) stuttered. The pattern of stuttering ranged from mild to severe blocking, with 82 of the stutterers demonstrating clonic blocks. Secondary reactions were observed in 26% of the stutterers. Because of the non-competitive, permissive attitude at The Training School, it may be that many of the subjects had not developed overt means of avoiding stuttering. Low standards of self-criticism and lack of insight undoubtedly contributed to this comparatively low incidence of secondary reactions.

Table 2 indicates the incidence of speech defects among the clinical types of mental retardates at The Training School. The greatest incidence occurred in the Mongoloid group. Ninety-five per cent of the Mongoloids were defective in articulation, 72% had voice defects, and 45% stuttered. One was mute. Among the larger etiological groups at The Training School, the Organics were next in frequency of speech defectiveness. Articulation was deficient in 84% of this group, 56% had voice defects and 18% stuttered. Four were mute.

The Undifferentiated probably include many who have an undiagnosed central nervous system impairment. For example, there are many retardates with suspected congenital maldevelopment of the brain which neurological tests have not verified. Therefore, one can see that the data for the Organic group may not be stable as many of the Undifferentiated would possibly classify as Organic if contemporary neurological techniques were more refined. This might explain why so many of the Undifferentiated group were classified as speech defective. Eighty per cent of this group had articulatory errors, 45% had voice defects, and 13% stuttered.

The least amount of defective speech in the four largest clinical groups was found in the Familial classification. This is to be expected because of a lesser degree of pathology underlying their retardation. Sixty-six per cent of the Familial group had articulatory errors, 22% had voice defects, and 10% stuttered.

The Mixed group contained 18 subjects with both familial and organic histories. Speech deviations were high: 94% had defective articulation, 33% had voice defects, and 11% stuttered. Though this group was small in number, one could postulate that the superimposition of one retarding factor upon another had augmented the number of speech problems.

The Other Forms group also contained a high percentage of speech defectives. Behavioral deviations in this group tended to affect speech production. Personality problems were also present in many of the subjects in other etiological groups.

There were 26 subjects classified as Not Mentally Retarded. However, handicaps in this group such as aphasia, sensory defects, behavioral disturbances, and other pathological factors were reflected in the high incidence of speech defects. Articulation was affected in 42%, 38% had defective voices, and 12% stuttered.

Conclusions

The incidence of speech defects among the retarded is relatively high. In many cases the severity of the problem is extreme, although speech may also be within normal limits. It is apparent that there is no speech syndrome peculiar to the retarded individual.

Worthwhile contributions can be made by speech experts to the development of interdisciplinary research in the field of mental retardation. With an understanding of the dynamics of mental retardation, the speech expert can improve or ameliorate one important area, communication. Speech therapy can aid in the general adaptation of the mentally retarded by making them more like other individuals. Habilitation of these multiple handicapped subjects suffers if the communication potential is not explored and attained.

Mental retardation is not an entity, but a symptom complex. As it is caused not only by pathology of the physical system, especially the central nervous system, but also by defects in the psychological and sociological spheres, one should not diagnose speech problems as being *caused* by mental retardation. An awareness of this by speech clinicians invites a more searching investigation into speech problems.

Summary

Frequent speech examinations over a period of several years were given to 516 mentally retarded residents of The Training School. The incidence of speech defects in the population was ascertained. Speech defects in the clinical subgroups of mental retardation were also noted. Seventy-nine per cent of the population demonstrated varying degrees of speech defectiveness in one or more speech areas. The Mongoloids and Organics were the most seriously handicapped groups in speech. The Familial group was least handicapped.

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3. Kennedy, L. Studies in the speech of the feebleminded. Ph.D. dissertation, University of Wisconsin, 1930.
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a group of institutionalized mentally handicapped children. *JSHD*, 18, 1953, 339-349.

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Graduate Theses In Speech And Hearing Disorders - 1955

Franklin H. Knower

There were 167 graduate theses titles reported in the field of speech and hearing disorders for 1955. Of this number 113 were Master's theses and 54 were doctorates. The degrees were conferred by 44 graduate schools. The names of these schools are listed alphabetically in the following report of titles. The degree involved is stated at the head of each list of the names of degree recipients. These names are arranged alphabetically in each list. Each thesis title is numbered. The index which follows the listing of schools and titles contains a classification of the suggested content of the thesis research followed by the title numbers involved. Many titles are indexed in more than one area of subject matter. Doctorate dissertation numbers in this index are followed by an asterisk.

Titles

University of Alabama

M.A. Theses

1. Brown, Loretta G. The study of speech in interpersonal relationships: Techniques of timing and analysis of rate relationships in a group situation.
2. Carlin, May Gill. A history of education for the deaf in Alabama, 1852-1955.
3. Dozier, R. Bernard. The study of speech in interpersonal relationships: Techniques for analyzing concentration of audible and non-audible behavior in a multi-person situation.
4. Lofchie, Enid Sylvia. A brief history of the development of the fenestration operation.
5. Martin, Edwin W. The study of speech in interpersonal relationships: Techniques for analyzing rate relationships in a counseling situation.

Boston University

M.Ed. Theses

6. Carriers, Richard. An analysis of the frequency and intensity characteristics of noise-making toys.
7. Chamberlain, Edward. The Development of the audio-visual voice comparator for speech and hearing therapy.
8. Cohen, Sumner. A preliminary analysis of resources in Europe for the training and care of the physically handicapped child.
9. Coopersmith, Alice. An analysis of literature of the influence of the mother-child relationship during the first three years of life upon speech language development.
10. DiMasia, Ilda. Original stories integrating the teaching of articulation with social studies and reading in the second grade.
11. Hackett, Anna. An integrated hearing therapy program for acoustically handicapped students in the junior high school.

Franklin H. Knower (Ph.D., University of Minnesota, 1933) is Professor of Speech, Ohio State University.

12. King, Mary. A study concerned with the integration of speech training with the social studies program to influence social adjustment.
13. Menyak, Paula. Abstracts and analysis of recent research in speech-hearing testing.
14. O'Sullivan, Jeanne. Auditory training records for the pre-school deaf and severely hard of hearing.
15. Thatcher, Carol. Validation of the Boston University Short Form Speech Sound Discrimination Test.

D.Ed. Theses

16. Conners, J. Edward. Evaluation of the voice visualizer as an aid in teaching voice improvement.
17. Fabian, Frederick E. Evaluation of the voice visualizer as a supplementary aid in the correction of articulation disorders.
18. Fitzsimmons, Ruth. Some developmental psycho-social and educational variables among children with normal speech and children with functional articulation problems.
19. Sortini, Adam. The effects of certain verbal stimuli upon the autonomic equilibrium of hearing handicapped, emotionally handicapped, and non-handicapped adolescents.

Bowling Green State University

M.A. Thesis

20. Johnson, Charles L. An investigation of auditory memory span among children using memory span tests of digits and speech sounds.

M.S. Thesis

21. Wheaton, Margaret E. A comparison of two group pure-tone tests of hearing with the individual pure-tone test of hearing.

Brigham Young University

M.A. Theses

22. Christensen, Ned Jay. A study of the relative effects of different visual environments upon the measurement of speech reception thresholds of school children in grade levels two through seven.
23. Baer, Sherwin H. The role of speech in the attainment of life goals of stutterers, normal speaker and successful speakers.

Brooklyn College

M.A. Theses

24. Friedman, Sidney. Diadochocinesis of the breathing mechanism of stutterers and non-stutterers.
25. Grossman, Irwin. Free-field pure-tone tests for the evaluation of amplification characteristics of several commercial hearing aids.
26. Harris, Robert. The effect of amplification of the stutterer's voice on the frequency of stuttering.
27. Mysak, Edward D. Diagnoses of stuttering as made by adolescent boys and girls.
28. Rigrodsky, Seymour. A study of the medical histories of elderly individuals with defective hearing.
29. Rubin, Herbert. A Study of the response to differential amplification by hypacusics with flat perceptive losses.
30. Tuck, Judith E. The familial diatheses of children with articulatory defects.
31. Vogel, Laura. A study of expectancy of stuttering in relation to specified psychological variables.
32. Ward, Elissa S. The diagnosis of stuttering by public school teachers and mothers of non-stutterers.

Cornell University

M.A. Thesis

33. Ortega, Salud Aldas. The English pronunciation problems of the native speaker of Tagalog.

University of Denver

Ph.D. Theses

34. Belk, Byrns. A test to measure the development of the acquisition of speech sounds in children 2-6 years of age.
35. Hough, Arthur S. An experimental study of the communication between 50 non-delinquent and 50 delinquent boys and their parents.
36. Larson, Mark H. A study of lingual sensory characteristics accompanying 'functional' disorders of articulation.

University of Florida

M.A. Theses

37. Armbruster, Flora L. A study of the diagnosis of stuttering by parents of non-fluent and relatively fluent children.
38. Carter, Eunice Trask. An investigation of the methods of articulation testing

that may determine the effect of maturation of speech deviations among children in the first grade.

39. Howell, Earl T. An investigation of cineflurographic techniques, procedures and equipment pertinent to the study of speech structures and their movements.
40. Mulkern, Marie T. A study of the Junior League services to the speech and hearing handicapped in ten southeastern states.

Ph.D. Thesis

41. Penson, Edward M. A study of the effects of thiamine on children with speech non-fluency.

Florida State University

M.A. Thesis

42. Slind, Margaret Alice. The history of speech correction and audiology in the public schools of Florida.

M.S. Thesis

43. Glover, Miriam Yvonne. An analysis of the monthly reports submitted by practicing speech therapists in the County School Systems of Florida.

University of Hawaii

M.A. Thesis

44. Rowlands, Rosemary. Effect of a hearing loss or a speech defect or both upon academic achievement of college freshmen.

University of Houston

M.A. Thesis

45. Collins, Lula Mae. The effect of phonetic training in speech correction on reading achievement.

Ph.D. Thesis

46. Arnold, Genevieve. A study of the values of amplified headphone listening and immediate playback in the correction of functional articulatory defects.

State University of Iowa

M.A. Theses

47. Barry, Jane Leeds. A critical analysis of certain drills and exercises for the improvement of voice.
48. Betts, Carl Eugene. An evaluation of out-patient clinic procedures and recommended home treatment programs for children with functional articulatory defects.
49. Damasco, Ines Maderazo. An articulation drill book for Filipino students of General American English.
50. Gordon, Morton John. An explanatory study of the use of structural patterns in the oral language retraining of aphasics.
51. Rouse, Verna Violet. A study of the articulation of a group of cleft palate children.
52. Semmler, Sylvia Wilma. A survey of rehabilitation programs for children with cleft lip and palate in the United States.
53. Thompson, Gary. Multiple choice responses to the PB-K Test.

Ph.D. Theses

54. Brissey, Forrest Lee. The factor of relevance in the serial reproduction of information.
55. Hollien, Harry Francis. A study of some laryngeal correlates of vocal pitch.
56. Schultz, Martin C. A preliminary investigation of the acoustical characteristics of inter-phonemic transitions.

Kent State University

M.A. Theses

57. Crow, Cherie. Speech correction handbook for the classroom teacher.
58. Hutchinson, Edward Charles. A survey of the effectiveness of the speech and hearing therapy program administered at Kent State University.
59. Sheets, Erma Jean. A program of home instruction for the parent of the child with delayed speech.

Louisiana State University

Ph.D. Theses

60. George, Albert Donald. The Longleys of Cincinnati, mid-nineteenth century phonetic printers and publishers.
61. Minchew, E. R. The organization and administration of a speech improvement program for the elementary and secondary schools of Louisiana.

University of Maryland

M.A. Theses

62. Engnoth, Gloria. A preliminary investigation of the relationship between a test of perseveration and two tests of language ability.

63. Hess, Garnet H. Scaled articulation ratings and intelligibility test scores as indices of articulation skill.
64. Levine, George. A study of speech handicapped children in grades two through six in seventeen elementary schools of Prince Georges County, Maryland.
65. McCrackin, Elizabeth. A preliminary investigation of discrimination scores at various sensation levels for subjects having abrupt high tone loss.
66. Poole, Arden B. An investigation of the masking effects of white noise upon the speech discrimination function in persons with abrupt high tone deafness.

University of Michigan

M.A. Theses

67. Bard, Barbara Toby. A measurement of abstract behavior by means of an adaptation of the Goldstein-Scheerer object sorting test.
68. Bender, Maryanna. A method of teaching the reading of connective words to adult dysphasic patients using tachistoscopic stimuli.
69. Denison, Joyce. An analysis of the effect of increase in size on the performance of dysphasic patients on two tests of abstract behavior.
70. Doyle, Maureen Agnes. Phonetic charts for teaching Urdu to deaf children.
71. Rettich, Peter Matthew. An investigation of the method of teaching oral language to dysphasic patients using the principles of structural linguistics as compared to an unstructured approach.

Ph.D. Thesis

72. Yantis, Phillip Alexander. Effects of inner ear pathology on aural overload.

Michigan State College

M.A. Thesis

73. Hagle, Nancy. A survey of state requirements for certification of speech therapists.

University of Minnesota

Ph.D. Theses

74. Low, Gordon M. An objective index of nasality.
75. Lundeen, Dale J. An investigation of the relationship of vertical mandibular movement to loudness and rate of speech and to aspects of individual variation.

University of Mississippi

M.A. Thesis

76. Baccaro, Paul Michael. A comparative study of cortical potentials of stutterers and non-stutterers under normal reading and delayed speech feedback conditions.

Mount Holyoke College

M.A. Theses

77. Anderson, Nancy P. A clinical study, with emphasis on speech therapy, of three cleft palate patients.
78. Hayden, Rebecca E. Latin American-Spanish dialect in American-English pronunciation. A study of the English speech of fifteen Spanish speaking college students from Latin American countries.

New York University

Ph.D. Thesis

79. Gurren, Louise. The comparison on a phonetic basis of the two chief languages of the Americas: English and Spanish and the analysis of the two languages from sound to word, to breath group to sentence, including all necessary details for the exact visual representation of both languages.

Northern Illinois State College

M.S. Theses

80. Brown, Amy May. The importance of speech readiness in the speech development of a child.
81. Duckels, Mae M. A study of intelligibility and quality ratings of speech handicapped children.
82. Lindroth, Roger C. Principles and methods for the rehabilitation of the young deaf child.

Northwestern University

Ph.D. Theses

83. Blair, Francis Xavier. A study of the visual memory of deaf and hearing children.
84. Carrow, Mary Arthur. A comparative study of the linguistic functioning of bilingual Spanish-American children and monolingual Anglo-American children at the third grade level.

85. Frisina, Dominic Robert. A psychological study of mentally retarded deaf children.
86. Goetzinger, Cornelius P. The effects of noise on loudness and on the intensity difference limen.
87. Hejna, Robert Frank. A study of the loci of stuttering in spontaneous speech.
88. Rousey, Clyde Lee. The relationship of prolonged periods of spontaneous speech to severity of stuttering.
89. Wright, Rogers Hornsby. The abstract reasoning of deaf college students.

Ohio State University

M.A. Theses

90. Essa, Shirley Helen. An investigation of the relationships between vocabularly level and three aspects of English language skills of international students.
91. Goolsby, Lula Mae. Measurements of judgements of distorted or defective speech sounds of a group of children having articulatory disorders.
92. Hardick, Edward Joseph. A comparison of the audiometric thresholds of children obtained with the Bekesy audiometer and a conventional pure tone audiometer.
93. House, James Bush. A comparative study of the performance of stutterers and non-stutterers on the gripes test and the picture frustration test.
94. McDermott, Richard Paul. A study of the reliability of individual ratings of severity of individual moments of stuttering.
95. McGrady, Harold James, Jr. A clinical evaluation of two tests of loudness recruitment.
96. Wiener, Joy Marilyn. A survey of hearing aid evaluations conducted at a university speech and hearing clinic.

Ph.D. Theses

97. Davidson, Grover Donald. The effect of altered external side-tone transmission time upon oral reading rate, precision of articulation and pitch variability.
98. Harbold, George James. Recognition of three magnitudes of interphonemic transitional influence.
99. Hedges, Thayne Alden. The relationship between speech understandability and the diadochokinetic rates of certain speech musculatures among individuals with cerebral palsy.
100. Morrison, Sheila Graham. A study of the reliability of psychological scaling of defective articulation in children.
101. Naylor, Rex Vaughn. A study of the effect of voluntary non-fluency upon frequency and rated severity of audible characteristics of stuttering.
102. Oyer, Herbert Joseph. The relative intelligibility of speech recorded simultaneously at the ear and mouth.

Ohio University

M.A. Theses

103. Branson, Virginia Marie. A comparison of pure tone and speech reception thresholds in the hearing of selected grade school children of Fairfield County, Ohio.
104. Olson, Robert Dean. A study of the interpersonal relations of speech handicapped children in three schools served by the Ohio University speech and hearing clinic.
105. Smith, Vause Poage. A study of the relationship of sound discrimination to functional articulatory disorders.

Pennsylvania State University

M.S. Theses

106. Bersinger, Don. An experimental investigation of the effects of acoustic filtering in the judgement of normal voice quality.
107. Dopheide, William. An experimental study of vowel and consonant influence in the perceived hoarseness of syllables.
108. Mullen, William. Relationships among tests of pure tone threshold, speech, hearing, auditory discrimination and articulation.
109. Parker, Charles. An investigation of clinical experience as a factor in the ability to recognize articulatory errors.
110. Simmons, John. The influence of inflection on ratings of nasality in cleft palate speech.

Ph.D. Theses

111. Falck, Frank. Interrelationships among certain behavioral characteristics, age, sex, and duration of therapy in a group of stutterers.
112. Falck, Vilma. Selected factors related to the ability of cleft palate speakers to convey information.

113. Mange, Charles. Relationships between selected auditory factors and articulation ability.

D.Ed. Theses

114. Hess, Donald. The effect of pitch and intensity level on perceived voice quality of male cleft palate speakers.

University of Pittsburgh

M.S. Theses

115. Elpern, Barry. An evaluation of two clinical methods used in determining the presence of the recruitment of loudness phenomenon.
116. Ludwig, Charlotte E. Effect of creative dramatic activities upon the articulation skills of kindergarten children.

Ph.D. Theses

117. Maietta, Donald F. A study of generalization and extinction in eyelid conditioning to pure tone auditory stimuli.
118. Michael, Paul Lee. Evaluation of principles applicable to the design of ear protectors and communication headsets for use in noisy environments.
119. Pell, Sidney. Measuring of the effects of aging and noise stress on high frequency hearing loss.

Purdue University

Ph.D. Theses

120. Asher, John William. The development of a set of equated tests for the measurement of intelligibility.
121. Bilger, Robert Clark. A comparison of monaural and binaural listening in three levels of ambient noise.
122. Dempsey, Martin E. Design and evaluation of a fundamental frequency recorder for complex sounds.
123. Frueh, Frank Xavier. An investigation of speech sound detectability and recognition thresholds in normal and functional articulatory defective speakers.
124. Miller, Irwin. Auditory perception in relation to amount of information and speech-to-noise ratio.
125. Summers, Raymond Reid. The nasal sound pressure levels of vowels produced at specified intensities.

San Jose State College

M.A. Thesis

126. Hall, Helen Campen. The speech clearance testing program at San Jose State College.

University of Southern California

Ph.D. Theses

127. D'Asaro, Michael J. An experimental investigation of the effects of sodium amytal on communication of aphasic patients.
128. Sawyer, Granville Monroe. An experimental study of perceived differences in efficient and inefficient voice production in low-pitched male voices by acoustic spectrography.
129. Sharp, Florence Agnetta. An experimental study of the diagnostic value of vocal cues in psychosis.

Southwestern University

M.A. Thesis

130. Pace, Thomas Jennings, Jr. The education for the speech defective child in Texas in white school districts, of less than ten thousand scholastics.

Stanford University

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131. Eeckhout, Margaret Jo. Speech training for the preschool cerebral palsied child.
132. Koch, Barbara Claire. Speech development of the child during the first thirty months.

Ph.D. Theses

133. Brooks, Courtaney June Perren. Agreement of selected judgments of speech proficiency of prospective teachers.
134. Egbert, James Hamilton. The effect of certain home influences on the progress of children in a speech therapy program.
135. Rasmus, Ward Thorvel. Conceptual trends in voice and diction training in American colleges and universities.

Syracuse University

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136. Dixon, Richard F. An exploratory investigation of the effects of the chest abdomen respirator on the breathing and speech coordination and the judged speech intelligibility of children with cerebral palsy who display abnormal breathing and speech difficulties.
137. Larr, Alfred L. An experimental investigation of the perceptual abilities of deaf children in residential schools for the deaf.

Temple University

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138. Thompson, Gilbert H. The effect of training in voice and articulation on estimates of educational level achievement.

University of Texas

M.A. Thesis

139. Milburn, Braxton. Performance of the deaf on the Lowenfeld mosaic and Mooney closure tests.

M.Ed. Thesis

140. Milburn, Wanda Omative. A survey of the education status of the deaf, deafened, and hard of hearing in the state of Texas.

Texas State College for Women

M.A. Theses

141. Smith, Virginia Ruth. Teaching the oral-deaf child to read.
142. Storey, Mary F. Descriptive analysis of speech problems encountered in poliomyelitis patients.

University of Tulsa

M.A. Thesis

143. Nichols, Martha G. A compilation of the meanings of five hundred words of the Gates word list for use with deaf children.

University of Utah

M.A. Theses

144. Call, Verne P. A speech and hearing survey of Navajo Indian children at the Inter-Mountain Indian School, Brigham, Utah.
145. Cayias, Marion. Sound blending as related to age.
146. Kemp, Lyn Thurman. The history of speech correction in Utah.
147. Kerihas, Emanuel John. Current status of speech correction in the intermountain states.
148. Knepflor, Kenneth J. A psychological approach to speech therapy for adolescents with cerebral palsy.

Vanderbilt University

M.S. Theses

149. Daimwood, W. Burton. A comparison of four commercial ear defenders.
150. Elliott, Charlotte M. Response of hard of hearing subjects to delayed sidetone.
151. Jones, Marlin. An investigation of the loudness difference limen and discrimination loss of hearing impaired individuals.

Wayne State University

M.A. Thesis

152. Meador, Millard. A spectographic analysis of 24 commonly used toys in the testing and training of hard of hearing children.

Western Reserve University

M.A. Theses

153. McPherson, Helen. A new approach to counseling in a hearing conservation program in the public schools.
154. Peters, Dorothy M. A study of the age-level graduation of conceptual language in the normal child.
155. Thompson, Gertraud. Speech therapy in post-war Germany.

Ph.D. Thesis

156. McCoy, Malcolm. An experimental study of the performance of three different methods of audiometric testing on an identical hard of hearing grade school population, grades three through seven.

University of Wisconsin*

*The thesis of Elinor Rae Miller reported in the 1954 list should have been listed as an M.A. rather than an M.S. thesis. The title should have read 'The relative efficiency of two methods of articulation testing in the diagnosis and description of a group of children with cerebral palsy.'

M.S. Theses

157. Bolden, Arlon T. The co-existence of and certain relation between diabetes and stuttering.
158. Gelin, Freda. An investigation of certain factors in electrodermal audiometry with an adult population.
159. Jackson, Joyce. A preliminary evaluation of standard therapeutic technique for primary and secondary stuttering.
160. Ransom, Phyllis A. Post therapy findings in a group of children diagnosed as delayed in speech.

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161. Hansen, Halvor P. The effect of a measured audience reaction on stuttering behavior patterns.

University of Wichita

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162. Achilles, Robert Fred. The communicative anomalies of individuals with cerebral palsy.
163. Cariri, Benjamin A. The chronic aphasia in the left hemiplegia of adults.
164. Davis, Robert W. A comparison of training and non-training on articulation defects.
165. Wurth, Charles W. An investigation into the presence and etiology of agnosia and apraxia in functional articulatory disorders.

University of Wyoming

M.A. Theses

166. Holdren, Mildred Gladys. Clarification of the definition of delayed speech. Emotional problems of the cerebral palsied child.
167. Hubbard, Mary M. Language training and education for the deaf child. Aspects of the sociology of the deaf child.

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President's Page

The Council of the American Speech and Hearing Association took actions at the 1956 Convention which moved us far along the path toward a strengthened and more representative organization. Three of the Council's decisions have particular professional significance.

The first concerns the establishment of a National Office under the direction of a full-time Executive Secretary who will be employed by the Association. The Council voted to locate the National Office in Washington, D. C. and to activate it on January 1, 1958, provided the additional funds needed for this purpose can be procured. The plan for financing this step was developed by the Committee on National Office; it calls for obtaining a grant-in-aid from a philanthropic foundation. The Committee on National Office has been directed to solicit such a grant-in-aid.

The Executive Secretary must be selected by the time of the 1957 Convention. To this end, a committee has been designated to collect and to screen applications. In the meantime, we can all be pleased that the move to establish a National Office is under way. Such an office can give us, as members of the American Speech and Hearing Association, enhanced status and added professional services.

Another important decision was that a second journal is to be inaugurated by the Association in the near future. The plan is to have one of our journals give primary emphasis to clinical topics and problems, while the other will concentrate on research materials. There are, of course, many details which will need to be worked out before the second journal becomes an actuality. However, the first steps have been taken and an active effort is under way to implement the plan as quickly as possible.

The third matter is the desire to give members a more effective voice in deciding the Association's business and policies. A positive step in this direction was taken at the last convention when important revisions of the By-Laws were passed so that now the use of the mail ballot for such actions as election of officers is required.

A much more basic step is impending. The Executive Council accepted in principle the recommendation of the Committee on Organizational Structure which calls for the establishment of a House of Delegates as the legislative body of the Association to function in conjunction with the Executive Council. The Committee is now charged with the task of developing the details of a practical plan for achieving this end. We will be represented by delegates who know local needs and the considerations peculiar to our own specializations within the profession. The result must inevitably be an Association which is more truly the agent of its diversified membership and hence, is more effective in mobilizing the full strength which our common interests make possible.

RAYMOND CARHART

Abstracts

Absolute Thresholds

PALVA, T. Absolute thresholds for continuous and interrupted pure tones. *Acta Otolaryng.*, 46, 1956, 129-136.

Auditory thresholds were measured for continuous and interrupted tones through the frequency range from 125 to 4000 cps. The rates of interruption were, 1, 2, 4, 8 and 12 interruptions per second. Testing was performed with a Bekesy type audiometer. Fifteen inexperienced listeners and one experienced listener were tested. Test results indicated that thresholds became poorer as the interruption rate increased. (*J. J. O'Neill*)

Adenoids

ALEXANDER, L. W. The adenoid and its relation to the ear. *Laryngoscope*, 66, 1956, 711-721.

Abstracts is edited by William Tiffany, University of Washington, assisted by the following committee: Robert W. Albright, North Dakota Agricultural College; Asa J. Berlin, Pennsylvania State University; Virginia B. Carroll, Minneapolis Veterans Hospital; Robert Goldstein, Central Institute; A. Bruce Graham, Henry Ford Hospital, Detroit; Morris Halle, M.I.T.; Clair N. Hanley, University of Washington; John J. O'Neill, Ohio State University; John M. Palmer, University of Washington; Maryjane Rees, Sacramento State College; Frank B. Robinson, Miami University; Vivian I. Roe, University of Indiana; Bernard B. Schlanger, Vineland (N. J.) Training School; George H. Shames, University of Pittsburgh; James L. Shapley, State University of Iowa; Joseph G. Sheehan, University of California; Barbara S. Street, Minneapolis Veterans Hospital; Wayne L. Thurman, Eastern Illinois State Teachers College; John C. Webster, USN Electronics Lab., San Diego; Dean E. Williams, Indiana University; Phillip A. Yantis, University of Michigan.

Agnosia

BATTERSBY, W. S., BENDER, M. B., POLLACK, M., and KAHN, R. L. Unilateral 'spatial agnosia'. *Brain*, 79, 1956, 68-93.

MACRAE, D. and TROLLE, E. The defect of function in visual agnosia. *Brain*, 79, 1956, 94-110.

The history and clinical study of a case of visual agnosia resulting from head injury is presented and analyzed. (*B. S. Street*)

Alcohol and Fluency

HARTOCOLLIS, P. and JOHNSON, D. M. Differential effects of alcohol on verbal fluency. *Quart. J. Stud. Alc.*, 17, 1956, 183-189.

Aphasia

ALAJOUANINE, T. Verbal realization in aphasia. *Brain*, 79, 1956, 1-28.

The author, in his interpretation and discussion of the verbal aspects of aphasia, draws the following conclusions: (1) Lesion of parts of the brain concerned with language result in a motor speech defect varying from complete inability to say a single word to inability to express feelings and thoughts; (2) The adequacy of verbal accomplishment in any one patient varies according to the speech stimulus. Emotional, expletive and interjectional responses are more effective than those requiring volitional or propositional speech; (3) The verbal residues which often appear take several easily recognizable forms: verbal stereotypy, agrammatism, phonetic disintegration, and jargon aphasia; and (4) Prolonged observations reveal predictable evolutionary sequences which can be used for prognosis and which possess pathophysiological significance. (*B. S. Street*)

BIRCH, H. G. and LEE, J. Cortical inhibition in expressive aphasia. *Arch. Neurol. Psychiat.*, 74, 1955, 514-517.

The authors hypothesize that cortical inhibition underlies many of the manifesta-

tions of expressive aphasia. This study was conducted to determine if disinhibition in the form of a prolonged and strong auditory stimulus would have any effect on the language functions of 14 individuals with expressive aphasia. These patients were exposed, binaurally, to a continuous 256 cycle tone at an intensity level of 60 decibels while naming objects, naming objects from pictures, and reading words and sentences aloud. The results indicated that for ten of the cases performance in all of the areas was markedly improved over performance with no auditory stimulation. There was a residual after-effect which persisted from five to ten minutes after the auditory stimulation. It is tentatively suggested that binaural auditory stimulation can serve as a valuable adjunctive procedure in the re-education of motor-aphasia patients. It is further suggested that such auditory stimulation can be carried over, on a conditioned basis, to circumstances in which the auditory stimulation is not present (*J. J. O'Neill*)

COHEN, P. and HANNIGAN, H. M. 'Aphasia' in cerebral palsy. *Amer. J. phys. Med.*, 35, 1956, 218-222.

The authors discuss a group of twenty-two cerebral palsied children whose failure to speak was not in keeping with the degree of dysarthria, hearing, or mental ability. The language difficulties of these children are described and are said to resemble those of adult aphasics. The authors note that seventy-three percent of these children were athetoids whose brain damage was the result of kernicterus. (*J. L. Shapley*)

HECAEN, H. and PIERCY, M. Paroxysmal dysphasia and the problem of cerebral dominance. *J. Neurol. Neurosurg. Psychiat.*, 19, 1956, 194-201.

An analysis of handedness and cerebral focus of disturbance is reported with 126 cases experiencing paroxysmal dysphasia in association with epileptic auras.

(*V. B. Carroll*)

INGRAM, T. S. and REID, J. F. Developmental aphasia observed in a department of child psychiatry. *Arch. Dis. Childh.*, 31, 1956, 161-172.

RIESE, W. Semantic aphasia. *J. Nerv. Ment. Dis.*, 123, 1956, 19-22.

The author presents a clinical neuropathological study of a case diagnosed as having semantic aphasia. A complete examination of the brain revealed diffuse lesions, affecting the temporo-parietal-occipital areas and the frontal lobe. The author discusses the significance of the nature of the lesions with respect to clinical findings.

(*B. S. Street*)

Aphasia Therapy

JONES, M. V. Language therapy for stroke patients. *J. Rehabilit.*, 22 (2), 1956, 9-10, 28-30.

The author cites six factors determining readiness for therapy with stroke cases in an out-patient community clinic. These are: extent of disability, age and health of patient, educational background, personality and motivation, adequacy of the program, and cooperation of the family.

(*V. B. Carroll*)

MCGINNIS, M. A. KLEFFNER, F. R., and GOLDSTEIN, R., Teaching aphasic children. *Volta Rev.*, 58, 1956, 239-244.

A specific approach to teaching speech and language to aphasic children is described and discussed. Major principles of the method include the following: (1) a phonetic approach to learning words, (2) an emphasis on precise articulatory position, (3) the careful association of articulatory positions and sounds with the letter-symbols of cursive script, (4) the use of expression as the foundation or starting point in building language, and (5) the use of systematic sensory-motor associations. (*F. Robinson*)

Ataxia

BJORK, A. LINDBLOM, U., and WADENSTEN, L. Retinal degeneration in hereditary ataxia. *J. Neurol. Neurosurg. Phychiat.*, 19, 1956, 186-193.

Atresia

CRACOVANER, A. J. and GOODMAN, M. Congenital bilateral choanal atresia. *Arch. Otolaryng., Chicago*, 64, 1956, 267-269.

Audible Clicking

FREUND, E. M. Objective audible clicking in the ear. *Arch. Otolaryng., Chicago*, 64, 1956, 129-133.

Audiometry

BROGAN, F. A. An automatic audiometer for Air Force classification centers. *Noise Control*, 2(3), 1956, 58-59, 67.

This article describes an automatic audiometer developed by the Air Force in which threshold recordings are made by means of an IBM punch-card system.

(P. A. Yantis)

DERBYSHIRE, A. J., FRASER, A. A., McDERMOTT, M., and BRIDGE, A. Audiometric measurements by electroencephalography. *Electroenceph. clin. Neurophysiol.*, 8, 1956, 467-478.

EEG responses to pure tones were observed in 250 subjects, ranging in age from 3 months to 27 years. Statistical data are reported from 22 selected patients whose auditory performance was well known. In these cases the children were tested with routine audiometric procedures within 2 to 6 weeks of the EEG test. For the 22 selected cases, the EEG thresholds are reported to agree within plus or minus 18 decibels with those obtained by standard procedures. *(D. E. Williams)*

GUNDRUM, L. K. An experimental study of audiometry in simulated partial deafness. *Arch. Otolaryng., Chicago*, 64, 1956, 213-215.

This is a report of a comparative study of audiometry in simulated and actual partial deafness. The variations between repeated audiograms were great for simulated deafness and small for actual deafness.

(J. M. Palmer)

HIGBEE, D. A new technique for bone conduction testing. *Ann. Otol., etc., St. Louis*, 45, 1956, 29-34.

This is a report of a new forehead-applied bone conduction testing facility designed to insure a standard pressure for the oscillator. The arrangement consists of a headband of 'a rubber belt with a small inflatable bag and a self-locking buckle embodied in it.' The vibrator is placed under the bag which is connected to a sphygomomanometer and inflated to a pressure of 40 mm. Masking equipment is added. Thresholds for 500, 1000 and 2000 cps were found to be plus-ten db over those obtained with mastoid process positioning. *(J. M. Palmer)*

McMURRAY, R. F. and RUDMOSE, W. An automatic audiometer for industrial medicine. *Noise Control*, 2(1), 1956, 33-36.

This is the first in a series of articles describing the development of automatic audiometers and their applications. The authors mention many of the problems encountered with manual audiometry in industrial environments, and propose the use of the automatic technique as a method of meeting industrial requirements for large-scale testing of personnel. A model being manufactured by the authors is described, and its operation is discussed.

(P. A. Yantis)

SILVERMAN, R. S. and HIRSH, I. J. Problems related to the use of speech in clinical audiometry. *Trans. Amer. Otol. Soc.*, 213, 1956, 291-306.

In a discussion of a number of the functions of current pure tone and speech hearing tests, the authors cite evidence to show that the newer intelligibility test W-22 does not separate conductive from nonconductive losses in the same way that the original PB test did. It is suggested that unknown factors in the talking are responsible, rather than the different composition of the word list itself. The authors point out that 'it is dangerous to base diagnostic determination on measures of discrimination loss that are made with the live-voice presentation of many different clinical workers.'

With respect to the problems of measuring hearing disability, the lack of face validity of word list tests is discussed. A set of criteria is given for the production of a satisfactory sentence test which is representative of everyday speech and which can be used for a valid test of social adequacy. *(W. R. Tiffany)*

VAN DISHOECK, H. A. E. Continuous, or sweep-frequency, audiometry. Its technique in adults and children. *Arch. Otolaryng., Chicago*, 64, 1956, 216-226.

The author presents the objectives of continuous (sweep-frequency) audiometry and describes the specially-built Peekel continuous audiometer. *(J. M. Palmer)*

WHEELER, D. E. Some factors in the selection of proper industrial audiometric environments. *Noise Control*, 2(4), 1956, 61-63, 91.

Auditory Fatigue

CHRISTANSEN, E. Auditory fatigue and white noise. *Acta Otolaryng.*, 46, 1956, 99-106.

The author reports on the development of a test to be used in the discovery of ears susceptible to noise. The test employed a monaural, three-minute white noise fatiguing stimulus at a level of 105 decibels. Threshold shifts were measured at 4000 cps one-half minute and 15 minutes after cessation of the fatiguing stimulus. Forty-one normal ears were tested. On the basis of the results of this testing, norms for susceptibility were established. The author states that these norms need to be validated in terms of actual hearing losses which occur because of exposure to industrial noise. (*J. J. O'Neill*)

HOOD, J. Fatigue and adaptation of hearing. *Brit. med. Bull.*, 12, 1956, 125-130.

The specific reversible changes in cochlear function which are brought about by stimulation of the ear are said to fall into two basic categories very similar to sensory fatigue and adaptation as described in accordance with acceptable physiological usage. In this article, the effect on threshold of high intensity pure tone stimulation is discussed. Threshold responses are altered, but recover, the rate of recovery depending on the duration and intensity of the stimulus. A method of measuring auditory adaptation with a prolonged stimulus is given. (*A. B. Graham*)

Auditory Localization

BLODGETT, H. C., WILBANKS, W. A. and JEFFRESS, L. A. Effect of large interaural time differences upon the judgment of sidedness. *J. acoust. Soc. Amer.*, 28, 1956, 639-643.

'The maximal interaural time difference that could be introduced into one channel without loss of sidedness was determined for various noise bands. Through the presentation of stimuli by several methods it was found that time values vary with frequency of the noise bands, being greater for lower bands. Marked inter-subject differences were found. For the lowest and most effective band used (106-212 cps), times ranged from 7.5 to 20.6 msec.'

(*Authors' precis*)

Auditory Nerve

CARMICHAEL, E., DIX, M., and HALLPIKE, C. Pathology, symptomatology and diagnosis of organic affections of the eighth nerve system. *Brit. med. Bull.*, 12, 1956, 146-152.

Auditory Rehabilitation

JOOSTE, H. The rehabilitation of the deaf. *S. Afr. Med. J.*, 30, 1956, 450-453.

This paper constitutes the published text of an address before a medical society meeting in Pretoria. It is concerned with incidence factors of various degrees and types of hearing losses as found in that area. In addition, the author discusses a number of the problems of deafness, including its effect educationally, psychologically, and sociologically.

(*A. B. Graham*)

SHINPAUGH, J. R. Follow up and adjustment problems of the acoustically handicapped and techniques of solution. *Ann. Deaf*, 101, 1956, 298-307.

Auditory Thresholds

BOYS, F. and CURRY, T. T. Measurement of auditory thresholds before and after strenuous physical exercise. *Ann. Otol., etc., St. Louis*, 45, 1956, 190-197.

Auditory Training

SCHILLING, A. Sur la rééducation auditive. (Auditory reeducation.) *Rev. Laryng., Paris*, 77, 1956, 317-324.

The author stresses the use of auditory training with the deaf and hard-of-hearing. He measures results of the training in terms of increased ability by the trainee to understand the spoken word through the ear and in terms of the cadence and inflection of the voice of the trainee. (*R. Goldstein*)

Aural Reflexes

LASKIEWICZ, A. Are the aural-reflexes of Bechterew and Kisch separate or identical

and useful in testing hearing? *Rev. Laryng., Paris*, 77, 1956, 218-222.

According to the author the reflexes of Bechterew and Kisch are separate, and they are especially useful in testing malingerers and infants. (*R. Goldstein*)

Body Conducted Sounds

Moser, H. M., Dreher, J. J. and Oyer, H. J. The relative intensity of sound at various anatomical locations on the head and neck during phonation of vowel sounds. AFCRC TN 55-70. Tech. Report 31, June 1956, Ohio State Univ. Research Foundation.

Using a bone conductor transducer as a microphone, the over-all intensity of 12 sustained English vowels was measured at 16 locations on the head and neck. In general, regions close to the larynx yielded maximum intensities (as thyroid cartilage, sides of neck and jaw bone angle); the top of the head, and above the ears, and eyes yielded minimum intensities. However, most faithful reproduction of speech was on the forehead according to subjective reports of subjects. (*J. C. Webster*)

Brain Damage

Pertussis and behavior problems. *Physicn. Bull.*, 21, 1956, 199-201.

Sixty-five children under 12 years of age with a history of whooping cough under the age of 18 months were compared for sub-clinical brain damage with 130 controls. Reading and writing disabilities were found in the former group with twice as high a percentage. All symptoms noted, e.g., test scatter, visual and spatial perception disturbances, showed higher percentages for the children with the history of pertussis. Another group of eight-year-old children were studied in a comparable manner and the results confirmed the earlier findings. (*V. B. Carroll*)

Bergman, P. S. and Green, M. A. The use of electroencephalography in differentiating psychogenic disorders and organic brain diseases. *Amer. J. Psychiat.*, 113, 1956, 27-31.

Dailey, C. A. Psychologic findings five years after head injury. *J. clin. Psychol.*, 12, 1956, 349-353.

Thirty-one male veterans with seizures following head injury were examined with nine psychological tests five years post-traumatically. Data were analyzed for comparison of the medicinally treated patients with the surgically treated patients. The surgically treated patients had higher scores on all tests. When a subgroup of tests sensitive to brain damage was studied, the surgically treated group more closely approximated pre-injury educational level. The author concludes that there appears to be more impairment, as measured by psychological testing, in seizure patients with pathological tissue than in patients with tissue removed. (*V. B. Carroll*)

Fisher, M. Left hemiplegia and motor impersistence. *J. nerv. ment. Dis.*, 123, 1956, 201-218.

The author discusses the nature of the disturbance of impersistence and presents ten case histories as illustration. Motor impersistence is used to designate a failure to persist in an act although initiation of the act seems normal. The syndrome is said to be closely tied to a lesion of the non-dominant hemisphere and associated with evidences of confusion and mental deterioration. The central features of the syndrome are inability to maintain the eyes closed and the tongue protruded. A reduction in cortical motor representation is favored as an explanation. The disorder is described as akin to apraxia. (*B. S. Street*)

Richards, T. W. and Hooper, S. Brain-injury at birth (cerebral palsy) and perceptual responses during childhood and adolescence. *J. nerv. ment. Dis.*, 123, 1956, 117-124.

This study evaluates the performance on the Rorschach of 32 cerebral palsied children matched for age, sex, and mental ability with 32 non-brain-injured children.

On the basis of this study the following conclusions were reached:

(1) Brain-injured children in the Rorschach situation were less productive, quantitatively and qualitatively; (2) Brain-injured children behaved with greater caution and less spontaneity; (3) Brain-injured children showed more of the Piotrowski signs of brain damage than did the control children; and (4) From the Rorschach records, it was possible to identify the brain-injured

children more accurately among the younger children than among the older. *(B. S. Street)*

SHONTZ, F. C. Body-concept disturbances of patients with hemiplegia. *J. clin. Psychol.*, 12, 1956, 293-295.

Two tests for determining disturbance in body concept were given to four groups of 16 persons each. The groups were composed of hemiplegics with a dominant side lesion, hemiplegics with a non-dominant side lesion, patients with physical illnesses other than hemiplegia, and normals. Results are said to support the hypothesis that body concept disturbances do occur with hemiplegia and significantly more with dominant hemisphere lesions. The author postulates a specific kind of 'body concept aphasia' which should be considered in the rehabiliation process with these patients. *(V. B. Carroll)*

TOLOR, A. A comparison of the Bender-Gestalt test and the Digit Span test as measures of recall. *J. consult. Psychol.*, 20, 1956, 305-309.

Patients having organic brain disease, idiopathic seizures, and psychogenic disorders were compared for their performance on the Digit Span test and on the Bender-Gestalt test. The results are said to indicate that there were significant differences among groups on immediate recall even when adjustments for the effects of intelligence were made. *(B. S. Street)*

WEINSTEIN, E. A. and KAHN, R. L. Patterns of social interaction in brain disease. *Amer. J. Psychiat.*, 113, 1956, 138-142.

The authors discuss the phenomena of loss of insight, dulling of consciousness, and loss of inhibition which occur with patients with brain disease. They feel that these modes of behavior can best be explained in terms of altered patterns of social interaction which appear as modes of adaptation to the stress of illness and incapacity. The relationship of brain dysfunction to the premorbid personality and cultural milieu is discussed *(B. S. Street)*

WILLIAMS, H. L., LUBIN, A., GIESEKING, C. and RUBINSTEIN, I. The relation of brain injury and visual perception to block design rotation. *J. consult. Psychol.*, 20, 1956, 275-280.

Breathing

ATTINGER, E. O., MONROE, R. G. and SEGAL, M. S. The mechanics of breathing in different body positions. I. In normal subjects. *J. Clin. Invest.*, 35, 1956, 904-911.

Some of the physiologic factors which might contribute to the observed changes in the mechanics of breathing are discussed. The authors note the importance of reporting results of pulmonary function tests related to the body position of the subject. *(B. B. Schlanger)*

EISLER, F. G. Speech-breathing activity and content in psychiatric interviews. *Brit. J. med. Psychol.*, 29, 1956, 35-48.

Central Auditory Pathway

WHITFIELD, I. Electrophysiology of the central auditory pathway. *Brit. med. Bull.*, 12, 1956, 105-109.

The author reviews some of the recent electrophysiological techniques which have permitted more detailed understanding of the pathway from the cochlea to the auditory cortex. These methods are said to have permitted the assessment at various levels of the parts played by neural interaction and by inhibition, for both steady and transient stimuli. The author indicates that, although the general pattern of activity is now better understood, much remains to be done, particularly at the cortical level. *(A. B. Graham)*

Cerebral Palsy

HARRIS, R. D. and ROWLEY, E. H. Reserpine in cerebral palsy. *J. Pediatrics*, 49, 1956, 398-400.

Forty-two cerebral palsied children, divided into two matched groups, alternated in receiving reserpine and placebos over two two-week periods. It was concluded that the use of reserpine was a helpful adjunct in a training program for children with cerebral palsy. The drug served as a tranquilizer in emotional states, and better cooperation was produced in all types of cases. Reserpine was found especially beneficial with athetoids. It was noted that the dosage must be individualized for each child. *(B. B. Schlanger)*

LYONS, D. C. An evaluation of the effects of cerebral palsy on dentofacial development, especially occlusion of the teeth. *J. Pediatrics*, 49, 1956, 432-436.

A greater incidence of malocclusion of the teeth was found among 123 cerebral palsied children as compared with an undifferentiated group of crippled children. The incidence of malocclusion amounted to 84 per cent of the cerebral palsied children. The author states that control of muscle movement through medicaments may help many subjects during the critical period of eruption of the permanent teeth. Other suggestions are offered for the development of a lesser degree of malocclusion. (*B. B. Schlanger*)

NEWMAN, M. K., PENDY, G. V., GOLDSTEIN, A. S. and KATZEN, G. D. The use of Resyl as an adjunct in the treatment of cerebral palsy. *Amer. J. phys. Med.*, 35, 1956, 160-169.

Resyl, a new muscle relaxant drug, was administered over a three-month period to twenty-six children with cerebral palsy; a group of control patients received placebos instead of the drug. 'Improvement of motor function and performance, in both upper and lower extremities, was obtained in the spastics who received Resyl. Little or no improvement was noted in athetoids.'

(*J. L. Shapley*)

SCHIRE, L. An ophthalmological survey of a series of cerebral palsy cases. *S. Afr. Med. J.*, 30, 1956, 405-407.

Cleft Lip

GLANZ, S. Correction of secondary cleft lip deformities with closure of naso-oral fistula. *Cleft Palate Bull.*, 6(3), 1956, 1-2.

The author presents a detailed description of the square-flap operation for secondary lip repair, and indicates the superiority of this technique for correcting specific deformities. (*A. J. Berlin*)

HUFFMAN, W. and LIERLE, D. Principles in the primary repair of the cleft lip. *Trans. Amer. Acad. Ophthal. Otolaryng.*, 60, 1956, 539-550.

The authors differentiate between the relatively simple problem of repairing unilateral clefts of the lip and the more complex techniques involved in the repair of a bilateral cleft, especially with protruding premaxilla. Surgical techniques are discussed and illustrated with pictures and diagrams. (*A. B. Graham*)

Cleft Palate

HALFOND, M. M. and BALLENGER, J. J. An audiologic and otorhinologic study of cleft-lip and cleft-palate cases. *Arch. Otolaryng., Chicago*, 64, 1956, 335-340.

The authors review a series of 69 cleft-lip and cleft-palate cases audiologically and otorhinologically to determine the possible relationship between observed anatomic and physiologic deviations and the prescence of a hearing loss. Significant factors included middle ear pathology, abnormal Eustachian tube patency, small Eustachian tube orifices, and tonsillar pathology. A strong recommendation was made to enroll the otologist in the cleft palate team to facilitate the prevention of hearing loss.

(*J. M. Palmer*)

ILLINGWORTH, R. S. and BIRCH, L. B. The intelligence of children with cleft palate. *Arch. Dis. Childh.*, 31, 1956, 300-302.

Eighty children with cleft lip and/or cleft palate, aged four to sixteen years, were given the Terman and Merrill intelligence test. The mean I.Q. obtained was 95.4, with a sigma of 19.5 (*J. L. Shapley*)

LLOYD, R. S., PRUZANSKY, S. and SUBTELNY, J. D. Prosthetic rehabilitation of a cleft palate patient subsequent to multiple surgical and prosthetic failures. *Cleft Palate Bull.*, 6(3), 1956, 3-5.

The importance of cephalometric roentgenography and laminagraphy as means for planning therapeutic procedures and evaluating results is demonstrated with a discussion of a complicated rehabilitative problem. (*A. J. Berlin*)

ROUSE, V. V. A study of the articulation of a group of children with cleft lips and palates. *Cleft Palate Bull.*, 6(3), 1956, 6-9.

Twenty-five children with clefts of the lip and/or palate, ranging in age from three years and seven months to eight years and three months, were studied with the Temp-

lin diagnostic articulation test. The subjects had little difficulty in the articulation of vowels and diphthongs, and significantly less difficulty with voiced consonants than with voiceless. They had least difficulty with nasal consonants, and most with fricatives. They had less difficulty producing the consonants correctly when they appeared as singles than as elements of blends. When compared with Templin's norms, the cleft palate children seemed generally retarded in articulation skills. (*A. J. Berlin*)

Community Hearing Service

NEWBY, H. A. The function of a medical society-sponsored hearing center. *Laryngoscope*, 66, 1956, 667-674.

WALLACE, H. M., DALY, J. F., HUI, R., LOSTY, M. A., and MARKLE, D. Community program to provide hearing services. *J. Amer. med. Ass.*, 162, 1956, 719-723.

This paper reports the steps taken in New York City since 1952 to promote a program for patients with hearing impairment. The findings of a survey of 24 facilities are discussed with respect to physical plant, personnel, policies, and procedures. (*W. L. Thurman*)

Consonant Cues

MALECOT, A. Acoustic cues for nasal consonants. *Language*, 32, 1956, 274-284.

Segments of recordings of the consonants, m, n and ŋ in isolation and in conjunction with the vowel æ were separated and recombined on magnetic tape. These stimuli were then presented to 50 phonetically naive subjects for identification. The results indicated that the place of articulation (labial, dental, or velar) was conveyed by the transition of the adjoining vowel formants. Also, the nasal resonances appeared to serve as class markers, differentiating nasals from plosives, fricatives, etc. The results are said further to indicate that nasal consonants should be classified as stops rather than as continuants

(*J. J. O'Neill*)

Deaf Children

BIRCH, J. R. and BIRCH, J. W. Predicting school achievement in young deaf children. *Ann. Deaf*, 101, 1956, 348-352.

Thirty-five students in a school for the deaf were administered the Leiter Performance test. The test results were correlated with supervising teachers' rating of general intelligence and achievement ratings. The correlations were .86 and .71, respectively. A chart was developed in order that school achievement could be predicted from the Leiter test. (*J. J. O'Neill*)

Discussion on the management of deafness in the young child. *Proc. roy. Soc. Med.*, 49, 1956, 455-468.

This is a report of the discussion at the Section of Otology, Royal Society of Medicine, December 2, 1955. Papers are included on the use of hearing aids for children as young as five or six months, language development in hearing handicapped children, and audiometric and psychometric tests for such children.

(*J. L. Shapley*)

HISKEY, M. S. A study of the intelligence of deaf and hearing children. *Ann. Deaf*, 101, 1956, 329-339.

From an observation of intelligence testing results obtained from samples of deaf and hard of hearing children, the author concludes that performances on the Hiskey (Nebraska) test correlate highly with results obtained on the Stanford-Binet and Ontario performance tests. The author states that an average intelligence quotient for the deaf should be in the mid-nineties. The differences in IQ between the deaf and normal hearing children are said to be due to communication difficulties during testing and to the fact that verbalizing aids the retention of hearing children.

(*J. J. O'Neill*)

MYKLEBUST, H. R. Language training: a comparison between children with aphasia and those with deafness. *Ann. Deaf*, 101, 1956, 240-244.

Delayed Sidetone

KALMUS, H., DENES, P. and FRY, D. B. Effect of delayed acoustic feedback on some non-vocal activities. *Nature*, Lond., 175, 1955, 1078.

The authors employed an acoustic feedback delay of .25 seconds to investigate

subjects' responses during whistling, rhythmical activities, and the playing of musical instruments. Wide individual differences were found to be the rule rather than the exception. (*C. N. Hanley*)

Detection of Signals

Fairbanks, G., House, A. S. and Melrose, J. Auditory detection of the presence and absence of signals in noise. *J. acoust. Soc. Amer.*, 28, 1956, 614-616.

Thirty-six normal-hearing observers were given a three-second stimulus of thermal noise at a 60 db sensation level. One second after onset of the noise, a 1500 cps tone was included in certain of the trials. The tone, when presented, was at one of three relative intensity levels: 0.0007 volt at the earphones (0 db), or either 2 or 4 db below this level. The subjects were asked to judge whether the tone was present during each trial. The results show that 'detection of the absence of signal remained high and relatively constant while detection of intermixed signals varied over the threshold region as a function of signal voltage. Statistical signal detection thresholds of observers with set to detect absence of signal were approximately 2 db lower than those of observers with set to detect signal.'

(*P. A. Yantis*)

Sherwin, C. W., Kodman, F. Jr., Kovaly, J. J., Prothe, W. C. and Melrose, J. Detection of signals in noise: a comparison between the human detector and an electronic detector. *J. acoust. Soc. Amer.*, 28, 1956, 617-622.

Four normal-hearing subjects were asked to detect a signal of 1000 cps mixed in noise and presented at any one of four different durations. The performance of these subjects was compared with the responses of an electronic detection system 'whose constants are intended to be close to those of the human auditory system'. The best correlation between detector and observer occurred for signals of 0.3 second duration with a band pass of 60 cps. The reasons for incomplete correlations are discussed.

(*P. A. Yantis*)

Dysarthria

Guns, P. Anarthrie et dysarthries. (Anarthria and dysarthrias.) *Rev. Laryng., Paris*, 77, 1956, 193-202.

Anarthria and dysarthria are discussed in terms of cerebral localization, pathological anatomy, symptoms, prognosis, and treatment. (*R. Goldstein*)

Ear-Protective Devices

Webster, J. C., Thompson, P. O. and Beitscher, H. R. Noise bands *versus* pure tones as stimuli in measuring the acoustic attenuation of ear protective devices. *J. acoust. Soc. Amer.*, 28, 1956, 631-638.

Education of the Deaf

Worthington, A. M. Applying communication theory to education of the deaf. *Ann. Deaf*, 101, 1956, 280-287.

Yenrick, D. E. Trends in the education of the deaf. *Arch. Otolaryng., Chicago*, 64, 1956, 341-345.

Eustachian Deafness

Adams, J. Studies in Eustachian deafness and its response to nasopharyngeal irradiation. *J. Laryng. Otol.*, 70, 1956, 512-529.

Fenestration

Rosen, S. Fenstra ovalis for otosclerotic deafness. *Arch. Otolaryng., Chicago*, 64, 1956, 227-237.

A description is presented of fenestration surgery of the oval window through the footplate of the stapes. The case involved otosclerosis where the footplate was extremely rigidly fixed and where stapes mobilization as well as fenestration novovalis either failed or was impossible. Reports of ten cases are given. Included is a 33-item bibliography. (*J. M. Palmer*)

Formant Synthesis

Badoyannis, G. M., Malony, D., Fich, S. and Slade, J. J. Jr. Electronically tunable selective amplifier for formant synthesis. *J. acoust. Soc. Amer.*, 28, 1956, 591.

Formant Transition

Stevens, K. N. and House, A. S. Studies of formant transitions using a vocal tract analog. *J. acoust. Soc. Amer.*, 28, 1956, 578-585.

'An electrical analog of the vocal tract

is used to obtain experimental relations between certain idealized articulatory parameters and formant frequencies associated with the transitional and stop portions of vowel-consonant syllables. The data are discussed in terms of the "locus hypothesis" and in terms of simple resonator theory. It is concluded that the results modify the hypothesis that assigns one second-formant locus to all vowel-consonant transitions involving a given class of stop consonants. In particular, the second-formant loci for transitions to velar and bilabial stop consonants appear to vary over a range of frequencies depending on the vowel, while loci for postdental stop consonants are relatively invariant. Characteristics of first- and third-formant loci are discussed briefly.' (*Author's precis*)

Functional Deafness

JOHNSON, K. O., WORK, W. P., and MCCOY, G. Functional deafness. *Ann. Otol., etc., St. Louis*, 45, 1956, 154-170.

The authors describe the incidence, diagnostic signs (including medical examination, listening-speaking aspects, hearing aid usage, and audiometric behavior) and methods of determining the limits of organic loss in cases of functional hypacusia. (*J. M. Palmer*)

Geriatric Otolaryngology

FABRICANT, N. D. Oto-rhino-laryngology—geriatric otolaryngology. *Amer. J. med. Sci.*, 232, 1956, 452-457.

The author reports observations on the incidence of ear, nose, and throat diseases in older persons. Physiological causes for hearing loss in the aged are briefly discussed. (*J. L. Shapley*)

Hearing

HARDY, W. G. Problem of audition, perception, and understanding. *Volta Review*, 58, 1956, 289-300.

An electric approach to training and periodic reassessment of the 'deaf' child is emphasized in this article. A brief review of hearing anatomy and physiology is presented and the article also includes discussion of problems associated with impairment at each of five levels: conduction, reception, transmission, perception, and association. (*F. Robinson*).

Hearing Aids

MILLER, N. M. The clinical audiologist and hearing aid evaluations. *Hearing Dealer*, 6(9), 1956, 10-11.

The purposes of the audiology clinic are described and suggestions are given for test procedures to be followed in a hearing aid evaluation. (*J. J. O'Neill*)

WATSON, T. J. The use of hearing aids for severely deafened children. *Arch. Otolaryng., Chicago*, 64, 1956, 151-156.

A report is made of the results obtained by making amplification equipment available to pre school and school aged children with severe hearing losses. (*J. M. Palmer*)

Hearing Loss

FIELLER, M. F. and STONE, L. J. The Rorschachs of selected groups of children in comparison with published norms: I. The effect of mild hearing effects on Rorschach performance. *J. proj. Tech.*, 20, 1956, 273-275.

Rorschach records of 10 children with mild or moderate hearing defects were compared with the records of a matched control group. An additional group of six children with severe hearing handicaps was also studied. The authors concluded that in this small sampling no single Rorschach factor or pattern of factors could be found which would consistently differentiate the children with defective hearing from the children with normal hearing. (*B. B. Schlanger*)

Intelligibility

MARTIN, D. W., MURPHY, R. L., and MEYER, A. Articulation reduction by combined distortions of speech waves. *J. acoust. Soc. Amer.*, 28, 1956, 597-601.

The authors studied various types of speech-wave distortion using an articulation test procedure. Four types of distortion were examined: multiple echo, gross attenuation of high-frequency components, random amplitude modulation, and gross irregularity of response-frequency characteristic. Combinations of these types were also studied. It was concluded that even though individual types of distortion may

be relatively unimportant in reducing word articulation, in combination they may quite seriously effect articulation even in low levels of ambient noise.

(*P. A. Yantis*)

MOSER, H. M. and DREHER, J. J. Preliminary test of Air Defense Command procedure words. AFCRC TN 56-54, Tech. Report 34, July 1956. Ohio State Univ. Research Foundation.

The relative intelligibilities of some of the most frequently used procedural words in ADC and some possible alternatives when spoken by American, French and Spanish talkers to American listeners were determined.

MOSER, H. M., DREHER, J. J., O'NEILL, J., and ADLER, S. Effects of repeating the initial sounds of words on the intelligibility of air messages. AFCRC TN 55-69. Tech. Report 30, June 1956, Ohio State Univ. Research Foundation.

PB monosyllabic words pronounced 'puh-plane' were found to be more intelligible than those pronounced 'puh-puh-plane.' Air control tower phrases using single repetitions were more intelligible than where no repetition was used. A single talker was used and a minimum of 12 listeners listened to recorded samples.

(*J. C. Webster*)

MOSER, H. M., DREHER, J. J. and OYER, H. J. The relative intelligibility of speech recorded simultaneously at ear and mouth. (Supplementary Report No. 2). AFCRC TN 55-64. Tech. Report 28, May 1956, Ohio State Univ. Research Foundation.

Two microphones, a noise cancelling dynamic (RCA M33/AIC) and a hearing aid type insert receiver (DynaLab D-69) were evaluated as to their word intelligibility when used simultaneously by a speaker in white noise levels of 85, 95 and 105 db. An external noise shield (23 db attenuation of white noise) was used over the ear-insert microphone. No shield was used with the microphone touching the lips. Six speakers and twelve listeners were used. The PB monosyllabic word intelligibilities were equal in the highest noise levels. The D-69 was slightly superior at lower levels.

(*J. C. Webster*)

TOLHURST, G. C. and PETERS, R. W. Effect of attenuating one channel of a dichotic circuit upon the word reception of dual messages. *J. acoust. Soc. Amer.*, 28, 1956, 602-605.

'Listeners responded to two simultaneous messages through dichotic headset circuits. Each message consisted of word groupings from the multiple-choice intelligibility tests. The signal level of one of the messages remained constant while the level of the contralateral message was attenuated in five steps of three decibels each step. The variable under study was the effect of these attenuation levels upon the reception of the two messages. The simultaneous messages were received under conditions of noise and quiet. The findings were that the general effect of attenuating one of the simultaneous messages was that of decreasing the reception scores of the attenuated message and increasing the reception of the unattenuated message. The effect was more pronounced in noise than in quiet.'

(*Authors' precis*)

Intra-Aural Muscles

WEVER, E. G. and VERNON, J. A. The control of sound transmission by the middle ear muscles. *Ann. Otol., etc., St. Louis*, 45, 1956, 5-14.

According to the authors, preliminary experiments demonstrate a reflex action of the tympanic muscles which 'enhance as well as reduce the transmission of sounds by the middle ear.' Results were based upon cat experimentation using mainly 450 cps test tones. General observation indicates differential reactivity to frequency and intensity variation. 'The neural patterns governing the reflex action of the two muscles are highly complex in nature, and the pathways and connections differ according to the frequency of stimulation.'

(*J. M. Palmer*)

Language Disability

EAMES, T. H. Association pathways in language disabilities. *Educ. Psychol.*, 47, 1956, 8-10.

Laryngeal Cancer

O'KEEFE, J. J. The surgery of cancer of the larynx. *Ann. Otol., etc., St. Louis*, 45, 1956, 131-136.

ORTON, H. B. Surgery of carcinoma of the larynx. *Arch. Otolaryng., Chicago*, 64, 1956, 205-206.

Laryngeal Paralysis

RULLAN, A. Associated laryngeal paralyses. Presentation of a case of bilateral abductor paralysis in a patient with the Arnold-Chiari deformity. *Arch. Otolaryng., Chicago*, 64, 1956, 207-212.

Lip Reading

CYPREANSEN, L. and MCBRIDE, J. Lip reading lessons on television. *Volta Review*, 58, 1956, 346-349.

Loudness

STEVENS, S. S. The direct estimation of sensory magnitudes—loudness. *Amer. J. Psych.* 69, 1956, 1-25.

The purpose of this study was to develop and refine a method for the direct quantitative assessment of subjective magnitudes in audition. Several experiments utilizing a standard stimulus and a set of variable stimuli gave consistent results over wide loudness ranges. Another form of this method dispenses with the standard stimulus. The subject assigns numbers that seem appropriate to describe the loudness of a series of intensities. Results in both procedures were consistent with a loudness scale derived from the pooled results of studies carried out by other investigators. *(B. B. Schlanger)*

Masking

BILGER, R. C. and HIRSH, I. J. Masking of tones by bands of noise. *J. acoust. Soc. Amer.*, 28, 1956, 623-630.

Measurements on five observers were made of the masking of pure tones by various bands of noise at intensity levels from 40 to 120 db re 0.0002 microbar. An automatic audiometer was employed 'so that masked audiograms could be compared with the noise spectra to ascertain how well the ear followed the frequency characteristics of the noise bands at different levels. It was found that values for the critical band according to Fletcher and to Hawkins and Stevens predict quite precisely the masking for tones whose frequencies lie within the band. More masking than would be predicted is found for frequencies above the band, the discrepancy increasing as the noise level increases. Below the band, the masked threshold is again predicted precisely by the critical-band hypothesis, but only to a point, beyond which, for high noise levels, a "remote" masking is observed. Some speculative interpretation is attempted.' *(P. A. Yantis)*

THWING, E. J. Masked threshold and its relation to the duration of the masked stimulus. *J. acoust. Soc. Amer.*, 28, 1956, 606-610.

Four experiments were constructed to explore the relation between masked threshold and duration of a masked stimulus. Loudness adaptation was measured using the masked threshold and loudness balance techniques. 'The results show that (1) within limits, as the duration of a pure tone is increased less noise is required to mask the tone, (2) the magnitude of this effect increases as a function of frequency of the masked tone but appears to be independent of its SPL, and (3) in general, these effects diminish somewhat with practice.' *(P. A. Yantis)*

Maternal Deprivation

GLASER, K. and EISENBERG, L. Maternal deprivation. *Pediatrics*, 18, 1956, 626-642.

The effects upon the child of maternal deprivation are reviewed. There is a brief discussion of preventive and therapeutic measures. *(B. B. Schlanger)*

Meniere's Disease

FOWLER, E. P. Tinnitus, deafness and vertigo. *Arch. Otolaryng., Chicago*, 64, 1956, 196-204.

WALSH, T. E. The diagnosis and treatment of Meniere's disease. *Arch. Otolaryng., Chicago*, 64, 1956, 118-128.

Mental Retardation

BAKWIN, H. Informing the parents of the mentally retarded child. *J. Pediatrics*, 49, 1956, 486-498.

Message Storage

BERTSCH, W. F., WEBSTER, J. C., KLUMPP, R. G., and THOMPSON, P. O. Effects of two

message-storage schemes upon communications within a small problem-solving group. *J. acoust. Soc. Amer.*, 28, 1956, 550-553.

Noise

WHITE, C. E. Noise—enemy of normal hearing. *Audio-Engin.*, 40 (11), 1956, 18-21.

The author discusses the ever-increasing problem of industrial deafness. He describes the requirements for audiometric test areas and the need for spectral analysis of the noise. (*C. N. Hanley*)

Objective Audiometry

BORDLEY, J. E. An evaluation of the psychogalvanic skin-resistance technique in audiometry. *Laryngoscope*, 66, 1956, 1162-1186.

HASKINS, H. L. Differential diagnosis of hearing problems of adult patients. *Laryngoscope*, 66, 1956, 658-666.

The author describes an ideal total diagnostic audiologic procedure, including a detailed evaluation of PGSR audiometry.

(*J. M. Palmer*)

KOHLER, W. and WEGNER, J. Currents of the human auditory cortex. *J. cell. comp. Physiol.* 45, 1955, Suppl. 1, 35-54.

Electrical responses to sound were obtained from surface electrodes implanted on the human skull. The best placement for human subjects was found to be on top of the head. (*C. N. Hanley*)

Otitis in Children

BOURDIAL, J. and DEBAIN, J. J. Chronic otitis in children. *Ann. Otol., etc., St. Louis*, 45, 1956, 57-67.

Noise Susceptibility

JERGER, J. F. and CARHART, R. Temporary threshold shift as an index of noise susceptibility. *J. acoust. Soc. Amer.*, 28, 1956, 611-613.

This study was constructed to test the assumption that an ear's susceptibility to hearing loss due to noise may be predicted from the reaction of that ear to short, temporary exposures to loud tones. Audiograms were obtained on the ears of 178 normal-hearing subjects before they were temporarily fatigued by a tone of 3000 cps for one minute at 100 db SPL. Recovery was plotted immediately afterward. Each subject was later subjected to jet-engine noise for an average of 12 hours over a three-day period, and audiograms were retaken eight weeks after this noise-exposure period. Comparison of recovery times from the two stimulation periods were made, and it was concluded that ears showing losses at 3000 and 4000 cps eight weeks after exposure to noise seem to take a longer time to recover from the pre-noise fatigue period. These findings are discussed in relation to the prediction of noise susceptibility.

(*P. A. Yantis*)

Phonemic Structure

WOLFF, H. Phonemic structure and the teaching of pronunciation. *Language Learning*, 6 (3 and 4), 1956, 17-23.

Learning to pronounce a second language is said to involve more than the acquisition of new articulatory habits. The phonemic system must be completely reshuffled and new patterns created. Examples of difficulties are provided from Puerto Rican, Spanish, and German. (*F. Robinson*)

Pitch

OAKES, W. F. An experimental study of pitch naming and pitch discrimination reactions. *J. genet. Psychol.*, 86, 1955, 237-259.

Psychometrics

ALLEN, R. M., THORNTON, T. F. and STENGER, C. A. The full-range picture vocabulary test compared with two short forms of the Wechsler Scale. *J. educ. Res.*, 50, 1956, 133-137.

Fifty-nine college students were given the Ammons Full-Range Picture Vocabulary test and the Wechsler-Bellevue Adult Intelligence Scale. Two Wechsler short forms, VIBS (vocabulary, information, block design, and similarities) and CSDB (comprehension, similarities, digit span, and block design) were found to correlate with the full scale I.Q. at .65 and .78 respectively. The Ammons Test Scores gave a correlation coefficient of .49 with the full scale Wechsler I.Q.'s. It was concluded that 'the Ammons Test is a time saving and comparatively efficient screening tool for gross intellectual classification of the higher level persons.' (*W. L. Thurman*)

SPIVAK, S. S. A study of a method of appraising self-acceptance and self-rejection. *J. genet. Psychol.* 88, 1956, 183-202.

This report deals with the content and statistical reliability of a 132-item self-administered form for the appraisal of some aspects of self-acceptance-rejection. Six hundred high school students were given the test. It was found to be reliable, the split-halves correlation coefficient being above .90. The entire form is printed in this article. (*W. L. Thurman*)

Recruitment

DIX, M. Loudness recruitment. Brit. med. *Bull.*, 12, 1956, 119-124.

The phenomenon of loudness recruitment and its anatomical basis are discussed. The author indicates that when prolonged, rather than short, stimuli are used for testing loudness recruitment a 'relapse phenomenon' appears and the loudness recruitment phenomenon is masked. Various techniques for testing this phenomenon are discussed. The clinical value of the determination of recruitment is said to lie in the fact that it is characteristically present in deafness due to disease of the end-organ and absent in cochlear nerve-fiber degeneration. (*A. B. Graham*)

MOULDEN, G. A. Weber's test and recruitment. *J. Laryngol. Otol.*, 70, 1956, 362-364.

The author states that recruitment 'can be demonstrated in the great majority of cases of Meniere's disease by a careful application of Weber's test.' Presented are basic philosophic considerations, methods of testing recruitment, and the application of Weber's test for determination of recruitment. (*J. M. Palmer*)

Research Implications

EDMAN, M. Some implications of research for speaking. *Elem. Engl.*, 33, 1956, 386-389.

Research dealing with speech and its relationship to personality development, caste and class status, and social environment in the classroom is reported to be altering the traditional speech program of the school. Some research studies are reviewed and their implications for classroom application are discussed. (*M. Rees*)

Schizophrenic Speech

GOLDFARB, W., BRAUNSTEIN, P. and LORGE, I. A study of speech patterns in a group of schizophrenic children. *Amer. J. Orthopsychiat.*, 26, 1956, 544-555.

Communication behavior was observed in a group of six children diagnosed as presenting reactive behavior disorders and in a group of twelve children diagnosed as childhood schizophrenics. In speech patterns the six children with reactive behavior disorders were found to be closer to normal than the twelve children with childhood schizophrenia. In every category of speech deviation, except voice quality, the schizophrenic children exceeded the children with behavior disorders. The complex deviations which were noted by the authors in the schizophrenic children were said to add up to a global impression of flatness, contributed to by factors of volume, pitch, rhythm, stress and intonation.

(*B. S. Street*)

Sound

VILLCHUR, E. M. Sound. *Audio-Engin.*, 40(5,6,7,8), 1956.

These articles conclude a series of non-technical discussions of various facets of audio transmission, recording, and reproduction. In these four articles the author deals with the problems of the loudspeaker and its environment. (*C. N. Hanley*)

Speech After Laryngectomy

ROBE, E. Y., MOORE, P., ANDREWS, A. H. and HOLINGER, P. H. Speech after laryngectomy. Part three: Coordination of speech with respiration. *Laryngoscope*, 66, 1956, 481-499.

The authors discriminate between pulmonary and 'phonic' respiration and find that positive synchrony between the two is demonstrated in each of 23 subjects in respiratory tracings and motion pictures. According to the authors, there appeared to be no correlation between the volumes of pulmonary and oral air, or between speech fluency and the volume of pulmonary or oral air. (*J. M. Palmer*)

Speech-Band Compression

CHANG, S. Two schemes of speech compression system. *J. acoust. Soc. Amer.*, 28, 1956, 565-572.

The author presents the design of two systems that may possibly be used for speech compression. In the first, an attempt is made to extract certain parameters from the power spectrum of the source. The parameters selected are turbulent sounds (hiss) and non-turbulent, or voiced, sounds (buzz). The use of these two discrete features of speech together with continuous extractions of the formants, moments, and pitch of the speech are discussed. The second system proposed is one in which an attempt is made to identify phoneme-like elements through a scheme of successive selection. (*P. A. Yantis*)

FLANAGAN, J. L. Band width and channel capacity necessary to transmit the formant information of speech. *J. acoust. Soc. Amer.*, 28, 1956, 592-596.

'Computations of the band widths and signal-to-noise ratios necessary for the transmission of continuous data on the first three formants of speech are presented. The results indicate that, on the average, band widths of 7.1, 6.7, and 5.3 cps and signal-to-noise ratios of 33, 24, and 20 db are sufficient for the transmission of signals specifying the frequencies of the first, second, and third formants, respectively. The band-width and signal-to-noise figures are computed on the basis that the error incurred in each formant signal is less than the just discriminable difference in formant frequency at least 65% of the time. The channel capacity necessary for the transmission of the three formant signals is, therefore, of the order of 200 bits per second.'

(*Author's precis*)

VILBIG, F. and HAASE, K. H. Some systems for speech-band compression. *J. acoust. Soc. Amer.*, 28, 1956, 573-577.

The authors discuss three vocoder-type compression systems being developed: the scan vocoder with envelope-scanning; the pulse vocoder with coding of the envelope; and the formant vocoder in which the envelope is represented by three formant frequencies.

(*P. A. Yantis*)

Speech Behavior

MCPHERSON, M. W. Speech behavior and egocentricity. *J. clin. Psychol.*, 12, 1956, 229-235.

The author suggests that Freudian 'slips of the tongue' in speech behavior, with the implication of inadequate censoring on the part of a subject, has not been systematically studied. In this paper he reports on such 'slips' found in 391 TAT stories obtained from tape recordings of college undergraduates. It is suggested that a slip of the tongue is likely to be a modification or repetition of what has been said, to be one syllable in length, to involve a word without a specific referent, and to be phonetically similar to the preferred speech. These findings are said to suggest that slips may be determined more by phonetic similarity than by pathology. The kind and number of speech interruptions were found to correlate well with what the author terms 'egocentricity.'

(*V. B. Carroll*)

Speech Congress Papers

PANCONCELLI-CALZIA, G. and others. Third Annual Congress of the 'Association Francaise pour l'étude de la Phonation et du Langage.' *Rev. Laryng., Paris*, 76, 1955, 657-784 (Supplement).

The papers presented at this Congress include studies of basic physiology of speech, psychological aspects of speech and language, and speech pathology.

(*R. Goldstein*)

Speech in Noise

EGAN, J. P., CLARKE, F. R. and CARTERETTE, E. C. On the transmission and confirmation of messages in noise. *J. acoust. Soc. Amer.*, 28, 1956, 536-550.

A communication event is defined by the authors as 'the transmission of a message from the source to the receiver followed by the return of a message (correct or incorrect) from receiver to source for confirmation.' Several experiments are constructed in which the various probabilities associated with communication events are investigated as a function of speech-to-noise ratio. (*P. A. Yantis*)

TOLHURST, G. C. Speech reception and temporary hearing loss as a function of exposure to high-level noise. *J. acoust. Soc. Amer.*, 28, 1956, 557-560.

'Two studies were made to assess the effects of high-level noise (1) upon efficiency in speech reception and (2) in causing temporary hearing losses. Over 1400 observers made responses under various sound-pressure levels for each of 13 different noise spectra. It was found that: (1) Increases in noise level always adversely affected speech reception, while changes in spectra did not always have an effect; time-in-noise did not progressively decrease scores. (2) Hearing threshold shifts of 4 to 5 db were found after a 2 hour noise exposure; certain spectra caused greater threshold shifts than others.'

(*Author's precis*)

Speech-Processing Devices

DAVID, E. E. JR. Naturalness and distortion in speech-processing devices. *J. acoust. Soc. Amer.*, 28, 1956, 586-589.

Speech Therapy

LEVINSON, H. J. Choral speaking for the severely handicapped. Speech Teacher. 5, 1956, 226-230.

The author explains her contention that choral speaking helps the severely speech handicapped child in rhythm, articulation, physical action, etc. She maintains that such group activity can be advantageous to cerebral palsied, hard of hearing, retarded, and orthopedically handicapped children.

(*W. L. Thurman*)

SCOTT, L. B. Puppetry. *Amer. Childh.*, 42, 1956, 13-15.

The puppet project is discussed as a motivational device in language development and speech improvement. Information concerning the construction and use of puppets is also included. (*B. B. Schlanger*)

Stapes Mobility

GOTO, S. Mobility of the stapes in chronic middle ear suppuration. *Ann. Otol., etc., St. Louis*, 45, 1956, 92-97.

Stapes Mobilization

ANSON, B. J. and BAST, T. H. Development and adult anatomy of the auditory ossicles in relation to the operation for mobilization of the stapes in otosclerotic deafness. *Laryngoscope*, 66, 1956, 785-795.

MELTZER, P. E., LINDSAY, J. R. GOODHILL, V., SHAMBAUGH, G. E., KOS, C. M., FOWLER, E. P., JR., HOUSE, H. P., ROSEN, S., ANSON, B., ALTMANN, F., BELLUCCI, R., SHEA, J. J., BARON, S., MORRISON, L. F., and RAMBO, J. H. T. Symposium: The operation for the mobilization of the stapes in otosclerotic deafness. *Laryngoscope*, 66, 1956, 729-784.

MYERS, D. and RONIS, B. J. Improvement in hearing in otosclerosis by means of stapes-mobilization operation. *Arch. Otolaryng., Chicago*, 64, 1956, 307-323.

The authors review a series of 129 patients operated upon in various stages of clinical otosclerosis. The detailed surgical technic is described as well as audiometric findings pre- and post-operatively. Improvement in hearing acuity in all types of cases is reported. The authors note that pre-operative prediction factors are either weak or non-existent. (*J. M. Palmer*)

MYERSON, M. C. Mobilization of the stapes for otosclerosis. A new and safe technique. *Arch. Otolaryng., Chicago*, 64, 1956, 85-90.

Tape Recording

BURSTEIN, H. and POLLACK, H. C. Distortion in tape recording. *Audio-Engin.*, 40 (10), 1956, 30-35.

Therapy Schedule

DICKEY, S. Some observations on an experimental speech therapy schedule. *West. Speech*, 20, 1956, 225-227.

Six elementary schools participated for a two-year period in a speech therapy program in which children in one school were scheduled for daily lessons for a variable number of weeks. At the same time children in the five other schools were seen once each week. The schedule was rotated so that all children had blocks of daily lessons

at various times throughout the year. Advantages and limitations of this scheduling procedure are discussed with respect to the effectiveness of the program. (*M. Rees*)

Time Compression

FAIRBANKS, G. Experimental studies of time compression of speech. *J. acoust. Soc. Amer.*, 28, 1956, 591.

Ultrasonics

PORTMANN, G., PORTMANN, M. and BARBE, L. J. Experimental study (functional and histological) of the effect of ultrasonics on hearing. Translations of the Beltone Institute for Hearing Research, No. 3, 1956, from Étude expérimentale (fonctionnele et histologique) de l'action des ultra-sons sur l'audition, *Acta Otolaryng.*, suppl. 100, 1952, 119-133.

The auditory behavior and anatomic lesions produced in fifty animals were studied after they were subjected to an ultrasound of 1,000,000 cps at varied intensities. (*P. A. Yantis*)

Visual and Auditory Recognition

POSTMAN, L. and ROSENZWEIG, M. R. Practice and transfer in the visual and auditory recognition of verbal stimuli. *Amer. J. Psychol.*, 69, 1956, 209-226.

The effects of preliminary training on visual and auditory discrimination of verbal stimuli (nonsense syllables) were investigated. Half of 150 subjects received visual training; the remainder received auditory training. For visual recognition, the test items were presented tachistiscopically under different intensities of illumination. Masking noise was used in the auditory test.

Results indicated that frequency of past exercise was a significant determinant of both visual and auditory recognition with the effects more clear-cut in the latter. Transfer effects from visual training to auditory discrimination were more pronounced than conversely. Other findings indicated that preliminary training reduced alternative responses and that auditory stimulation tended to produce more complete responses than did visual stimulation.

(*B. B. Schlanger*)

RAYMOND CARHART, *President*

The American Speech and Hearing Association

Raymond Carhart is Professor of Audiology and Director of the Hearing Clinic in the School of Speech, and Professor of Otolaryngology in the Medical School of Northwestern University. He received the A.B. degree from Dakota Wesleyan University in 1932. His graduate training was obtained at Northwestern University, where he was granted the M.A. in Speech in 1934 and the Ph.D. in 1936. He has served since 1936 on the faculty of Northwestern University except for two years (1944-1945) spent as Acoustic Physicist in the Aural Rehabilitation program at Deshon General Hospital. Professor Carhart has contributed many important services to his profession. He was an instructor at the International Course in Audiology at Stockholm in 1950. He has been Consultant to the Committee on Conservation of Hearing of the American Academy of Opthalmology and Otolaryngology since 1944, Consultant on Aural Problems to the Surgeon General of the Army (1946-1952), and Consultant in Audiology to the Veterans Administration since 1955.

Professor Carhart's early professional interests and publications were in speech correction and experimental phonetics. More recently he has provided an inspired leadership in the development of a scientific methodology in the field of audiology. His writings include many important contributions to this field; his research has stressed the measurement of hearing loss, its audiological assessment, the clinical procedures in the field, and the efficiency of hearing in noise. He is married and is the father of three boys.

The American Speech and Hearing Association

presents THE HONORS OF THE ASSOCIATION

to MARGARET HALL POWERS

In recognition of her enlightened leadership in the field of public school speech correction, of her effective and diligent contribution to the life and growth of the American Speech and Hearing Association, of her scholarly attainments, the Honors of the Association are awarded to Dr. Margaret Hall Powers.

—The American Speech and Hearing Association, in convention at Chicago, Illinois, November 19, 1956.

By virtue of her special talents and abilities, Margaret Hall Powers was essentially perfectly suited for the role she has played in speech pathology. From undergraduate days to the granting of the doctor's degree, she progressed through a solid training in experimental and scientific psychology to achieve an unusual grasp of clinical and educational psychology. Along the line, Dr. Powers encountered the lasting influence of Hull of Wisconsin, Thurstone of Chicago, Brown of The Institute of Juvenile Research, and Travis of Iowa.

Out of an enriched soil composed of scholarly and clinical ingredients, she flowered four primary contributions. The first one was the organization and development, practically single-handedly, of a truly magnificent program of speech correction in a metropolitan school system. This task demanded of its master such diversified efforts as selling, establishing standards of professional competency, in-service training of staff, and sheer house-keeping chores dignified under the label of administration.

Second, Dr. Powers contributed much to the indelible stamping of the importance of public school speech correction on the consciousness of the people in University training centers. She lectured, gave courses, conducted workshops, and held conferences in such Universities as Iowa, Michigan, Purdue, Northwestern and Southern California. In this service she gave unstintingly of energy, wise counseling and professional leadership.

Her third principal contribution was the attempt to bring University professors out of the clouds of theoretical and often unrealistic preoccupations and to bring the public school authorities out of the morass of classroom methods and procedures. She has emerged from these efforts untired, and highly respected by both the theorist of the university and the educator of the public school.

Finally, she brought the fullest fruition of her growth and development to the needs of the professional body of speech pathologists, the American Speech and Hearing Association. She has contributed lastingly to standards of training, professional standing, vocational opportunities, ethics, and morale.

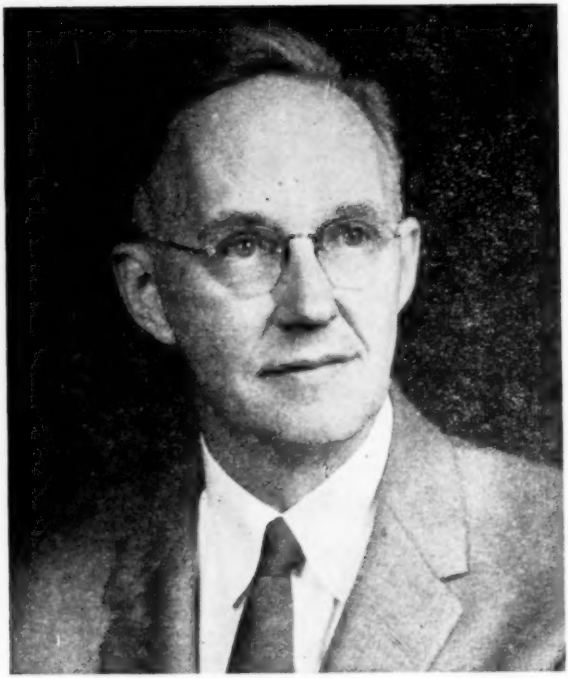
Biographical Summary

Powers, Margaret Hall, clinical psychologist and speech pathologist; b. Kinnears Mills, Quebec, Canada, March 22, 1905; m. Bruce C. J. Powers, 1952.

B.A., Univ. Wisconsin, 1927; M.S., Univ. Chicago, 1931; Ph.D., State Univ. Iowa, 1938.

Psychol., Institute for Juvenile Research, Chicago, 1928-1930; Psychol. concurrently at Institute for Juvenile Research, Chicago, Soldiers' and Sailors' Children's School, Normal, Illinois, and State Reformatory for Women, Dwight, Illinois, 1931-1935; Grad. assist., Speech Clinic and Department of Psychol., State Univ. Iowa, 1935-1938; Chicago Board of Education: Psychol. and Speech Pathol., Bureau of Child Study, 1938-1948; Superv. of Speech Correction, 1948-1951; Dir., Div. of Speech Correction, 1951-1956; Dir., Bureau of Physically Handicapped Children and Div. of Speech Correction, January, 1956 to present.

Amer. Speech and Hearing Assoc. (Fellow, 1941; Vice Pres., 1953; Pres., 1954); Central States Speech Assoc.; Speech Assoc. of Amer.; Chicago Speech Therapy and Audiol. Soc. (Pres., 1951-1953); Amer. Psychol. Assoc., Div. of Clin. Psychol. (Fellow), Div. of School Psychol. (Fellow, Pres., 1948); Diplomate (1947) in Clin. Psychol., Amer. Bd. of Examiners in Professional Psychol.; Midwestern Psychol. Assoc.; Illinois Psychol. Assoc.; Chicago Psychol. Club; Chicago Chapter, Internat. Council for Except. Child.; Delta Kappa Gamma Soc.; National Council of Administ. Women in Educ.; Sigma Xi.



The American Speech and Hearing Association

presents THE HONORS OF THE ASSOCIATION

to CHARLES VAN RIPER

In recognition of his many years of rich human leadership in the analysis and management of disorders in speech, not only as a teacher who devotes himself unstintingly to meeting the deepest educational responsibilities of the students, but also as a writer of textbooks which have a major effect on the professional thinking of students and colleges throughout the country, the Honors of the Association are awarded to Dr. Charles Van Riper.

—The American Speech and Hearing Association, in convention at Chicago, Illinois, November 19, 1956.

In presenting the Honors of the Association to Charles Van Riper, the American Speech and Hearing Association has selected a person who symbolizes the breadth, depth, and progress of the Association. As educator, therapist, researcher, author and administrator, Dr. Van Riper has earned worldwide recognition in various fields of speech correction. Although most widely known for his contributions to the theory and correction of stuttering, his achievements in other areas of speech correction have warranted the respect and gratitude of the entire profession.

From his stimulating and creative start as a student at the University of Iowa, through his years as Director of the Speech Clinic at Western Michigan College, Dr. Van Riper has developed outstanding ability to understand, evaluate, and alter speech behavior. His knowledge, warmth, and skill have given aid to a long line of those handicapped in speech and have inspired many students to become effective therapists. The speech handicapped person has no greater friend than Dr. Van Riper.

For those who have sought knowledge in speech correction but who have not had the privilege of personal association with Dr. Van Riper in class room, clinic, or convention program, his many publications are a second-best revelation of the man and his values. Dr. Van Riper's writing, though scholarly and scientific, portrays a style and philosophy that make learning refreshing, vital, and personal. Impressive evidence of his effectiveness as an author is confirmed by the wide use of his *Speech Correction: Principles and Methods,* revised three times since 1939.

Perhaps Dr. Van Riper's greatest contribution to the handicapped, the student and the reader rests in his unique combination of the scientist, the artist, and the humanitarian who has experienced so much of what he teaches.

Biographical Summary

VAN RIPER, CHARLES, Psychologist, speech pathologist; b. Champion, Mich., December 1, 1905; m. Catherine Jane Hull, 1930; ch. Cathy, Susan, John.

B.A., Univ. Michigan, 1926; M.A., Univ. Michigan, 1930; Ph.D., State Univ. Iowa, 1934.

Element. school teach., 1926-28; High school teach., 1930-31; Res. fellow., State Univ. Iowa, 1934-36; Prof., Dir. Speech Clinic, West. Mich. Coll., since 1936.

Member, Amer. Speech and Hearing Assoc. (Fellow, 1933; Associate Editor, 1939; Councilor, 1950-52), Phi Beta Kappa, Sigma Xi, West. Mich. Cult. Improvm. and Penny Ante Soc.

Author, research reports, articles, and texts; *Speech Correction: Principles and Methods; Teaching Your Child to Talk; Introduction to General American Phonetics; A Casebook in Speech Therapy; Speech Therapy; Speech in the Elementary Classroom; A Casebook in Stuttering.*

News And Announcements

Significant Trends in the Profession

In order to strengthen its services to state and local school systems, the Office of Education, U. S. Department of Health, Education and Welfare has added eleven new staff members. Among these are Harold M. Williams who will serve as specialist in the education of exceptional children, especially the mentally handicapped, and Patricia Robbins, who will serve as research assistant in the education of exceptional children.

A new 'Exchange' department in the Placement Service of the ASHA has been established according to a report from the office of the Secretary-Treasurer. An 'Exchange' section will be included in the Placement Bulletins for the benefit of members who might be interested in exchanging positions with another speech therapist in a foreign country. Such opportunities are currently available.

In 1956 the Michigan Legislature awarded the University Speech Clinic a grant of $10,000 to conduct research in 'human resources.' These funds are being devoted to research on language retardation. The ultimate objective is to design a discriminating test battery to be employed in diagnosing language-retarded children. It is anticipated that such a battery will make possible more effective recommendations regarding the most appropriate facilities and personnel needed for the care and education of these children.

News and Announcements is edited by Mary W. Huber, Los Angeles State College, assisted by the following committee: Sue Earnest, San Diego State College; Lester L. Hale, University of Florida, Henry Moser, Ohio State University; Severina Nelson, University of Illinois; Max Nelson, Michigan State College.

News and Announcements

The Purdue Research Foundation has approved three Fellowships in the field of Speech Pathology and Audiology. One Fellowship, awarded to Dr. George Shaffer, involves an intensive investigation of effective follow-up procedures related to itinerant public school hearing test services. A Fellowship awarded to Dr. T. D. Hanley will support an investigation of the speech characteristics of the aged. A Fellowship awarded to Dr. M. D. Steer provides for an investigation of voice variable normative data for mentally retarded pupils. Graduate research assistants at the doctoral level will be assigned to each of these projects.

Employment notices other than part-time scholarships, assistantships, and fellowships are not published in the News and Announcements section. Institutions in foreign countries, however, who are seeking the services of speech therapists from this country, may list such opportunities in News and Announcements.

There will be an International Conference on Audiology at the Chase Hotel in St. Louis, May 13-16, 1957. The Conference will be included as part of tours that are being planned in connection with the Sixth International Congress of Otolaryngology to be held in Washington, D. C. in May 1957. The Program Chairman is Dr. Ira J. Hirsh, Research Associate, Central Institute for the Deaf. The Conference is being partly supported by a grant from the National Science Foundation to the Central Institute for the Deaf. Subjects which will be discussed at the Conference include the Assessment of Auditory Function, the Physiology of Audition, and the Relation of Hearing Loss to Noise Exposure. Visits to local audiological and otological facilities will be arranged.

Members of the North Dakota Speech and Hearing Council are studying the coordination of the state certification requirements with those of the ASHA.

Columbia University College of Physicians and Surgeons announces a Postgraduate Cerebral Palsy Course for the Spring of 1957. An interdisciplinary approach to cerebral palsy is presented through lecture, clinical affiliation, and discussion seminar. Representatives of differing clinical methods are invited to demonstrate the practical application of their theories. The Physicians' Course runs from March 4 to March 22, 1957 and the Therapists' and Nurses Course runs from March 4 to May 3, 1957. Scholarships covering tuition and maintenance are available. For information write Office of the Dean, College of Physicians and Surgeons, 630 West 168th Street, New York 32, N. Y.

The Third Postgraduate Course in Esophageal Speech and Organic Voice Problems under the direction of Dr. Nathaniel M. Levin will be held June 17-30, 1957. The Course is sponsored by the University of Miami School of Medicine. Traineeships (tuition and traveling expenses) valued at $250 are available on application. Address Dean Homer Marsh, University of Miami School of Medicine, Coral Gables, Florida.

Tulane University announces the inauguration of a program leading to the degree of Master of Sciences in Speech Correction and Audiology beginning with the 1957 Summer Session. This program is being offered through the cooperation of the School of Medicine, the Graduate School, and the College of Arts and Sciences. Most of the courses will be taught by the staff of the Speech and Hearing Center which is part of the Department of Otolaryngology in the Medical School. The facilities of the Center will also be available for clinical work.

A new graduate program in speech and audiology, with special emphasis on diagnostic procedure, is announced by Emory University and the Atlanta Junior League School for Speech Correction. Dr. Warren J. Clark is Coordinator of Speech Correction and Dr. Claude S. Hayes heads the faculty and staff of twenty-two. Visiting authorities who will participate in the new program include Dr. Herbert Koepp-Baker, Dr. Wendell Johnson, Miss Mildred McGinnis, and Dr. G. Paul Moore. For information on scholarships and applications write Education Committee, Junior League School for Speech Correction, 2020 Peachtree Rd. N.W., Atlanta, Georgia.

The School of Speech, Northwestern University, announces a four year undergraduate program leading to a Bachelor of Science degree in specialized study of speech, speech reading, language development, and auditory training. This work fulfills requirements for certification as a teacher of the deaf. Extensive facilities are available for graduate study in the education and psychology of the deaf and hard of hearing. The program leads to the degree of Master of Arts or Doctor of Philosophy. Programs can be planned to combine clinical audiology, education, speech pathology or psychology. The Institute for Language Disorders in Children offers opportunities for both graduate and undergraduate students to learn techniques for language therapy, to gain clinical experience, and to do research on language. Courses cover aphasia and the psychology of language problems resulting from deafness and blindness. For information write Helmer R. Myklebust, Director, Institute for Language Disorders in Children, School of Speech, Northwestern University, Evanston, Illinois.

The winter quarterly of 'Western Speech' is devoted to a symposium on Cleft Lip and Palate. Victor Garwood, University of Southern California, is Consulting Editor.

The Board of Examiners of the New York City Department of Education is planning to hold an examination for license as assistant director of speech improvement. Applications will be received from January 24 to May 3, 1957. The written test will be held during the week of May 27. Inquiries should be addressed to Dr. Jay E. Greene, Chairman of Committee on Speech Licenses, at 110 Livingston Street, Brooklyn 1, New York.

The Speech and Hearing Clinic at Indiana University is acquiring a new residence for its 'away-from-home' children. The Exchange Clubs of the state of Indiana have created a foundation of $100,000 to pay for a new building which will house approximately 40 school-age children.

The first fully equipped hearing center in Montana will go into operation in the summer of 1957 under the auspices of the Montana Society for Crippled Children. Charles R. Schiefer, Director of the Speech and Hearing Center, announces that there are now five therapists working for the Society, three of them in mobile units that cover the State.

Sonotone Corporation has established a Christmas program offering 1,000 hearing aids to be distributed nationwide to needy children and teenagers. Instruments are presented only to individual children for their use both at home and at school, and they become the property of the parent or guardian. A school or clinic can assist a needy child by giving the parents a note of recommendation to the Sonotone office in their community, or by sending it directly to that office. While this is primarily a Christmas program, an eligible child may be presented with an instrument at any other time of the year if the need is urgent.

Summer Programs

The Purdue Speech and Hearing Clinic will again conduct an annual Speech and Hearing Therapy Workshop for teachers and therapists. The Workshop will be conducted during the period June 10-29, 1957. It will include lectures by senior staff members and other specialists. In addition, a Childrens' Clinic will be conducted during which modern therapies for speech and hearing defective children will be demonstrated. Three hours of University credit may be earned in this Workshop program. Inquiries concerning the program should be addressed to Dr. M. D. Steer.

The Thirteenth Annual Summer Residential Center, sponsored by the Division of Services for Crippled Children and the Department of Speech, will be held on the Urbana campus of the University of Illinois, June 24 to August 2, 1957. Some eighteen to twenty graduate assistants will be selected to work with teen-age children who have speech problems associated with hearing loss, cleft lip or palate, and cerebral palsy. For information write Karl Wallace, Department of Speech, University of Illinois, Urbana, Illinois.

Syracuse University is offering a Summer School program from July 1 to August 9; the program includes eight courses in Speech Pathology and Audiology and four in Deaf Education. In addition, a six weeks Summer Residence School for children with speech and hearing problems will be conducted at the Gordon D. Hoople Hearing and Speech Center. Dr. J. J. Villarreal and Dr. Moe Bergman will be visiting faculty members.

The Institute of Logopedics, Wichita, Kansas, will maintain its full clinical program during the summer months.

A Communications Workshop will be held at the University of Denver, July 5, 8, and 9. Visiting lecturer will be Earl W. Blank, Director of the Speech and Hearing Clinic, Northeastern State College, Tahlequah, Oklahoma.

The University of Connecticut will offer a summer program of graduate work in Speech Pathology and Audiology leading to the M. A. degree. The program is headed by Dr. Robert F. Hejna, recently from the University of Wisconsin.

Dr. Harley A. Smith, Director of Special Education, Lafayette, Louisiana, will be guest lecturer in a speech readiness workshop to be held June 21 to 25, at Bradley University, Peoria, Illinois.

Southern Illinois University, in cooperation with the University of Illinois, Division of Services for Crippled Children, and The Southern Illinois Association for the Crippled, Inc., will conduct its fourth consecutive summer camp for crippled children. Children with a variety of crippling conditions attend the camp for a six weeks period beginning around July 1st. Children referred from the Division of Services for Crippled Children receive a program of concentrated speech and/or hearing therapy throughout the entire period. Approximately 150 children will attend this camp. In conjunction with the camp, Southern Illinois University will offer several courses specifically designed for those who are working in the camp program. These courses concern the problems of cerebral palsy and aphasia, cleft lip and palate, lip reading, and auditory training. Additional

courses in the field of speech correction will be offered on the Southern Illinois University campus. Anyone interested in attending these courses or working in the crippled children's camp program should contact Dr. I. P. Brackett, Director of the Speech and Hearing Clinic, Southern Illinois University, Carbondale, Illinois.

Central Institute for the Deaf announces a summer course in the Assessment and Teaching of Aphasic Children from June 24 to August 2. The course will be devoted to the techniques used at Central Institute for the teaching of speech and language to aphasic children and to children with severe linguistic deficiencies not primarily the result of hearing loss or mental retardation. There will be lectures, demonstrations, and opportunities to observe and participate in the assessment and teaching of children at the Institute. Enrollment will be limited to those approved by the instructors. Applications from teachers of exceptional children, particularly teachers of the deaf or hard of hearing, teachers of the physically handicapped, teachers of the mentally retarded, and speech therapists are encouraged. For further information address correspondence to Frank R. Kleffner, Ph.D., Central Institute for the Deaf, St. Louis, Missouri.

Los Angeles State College will offer courses leading toward the California Credential in Speech Correction and Lipreading including Directed Teaching. A course in Speech Problems in Cerebral Palsy will be presented in cooperation with a local school for handicapped children. Besides the regular summer offerings in special education, the speech clinic will conduct a symposium in which outstanding specialists in speech and hearing will participate. Speech correction courses will be presented by Dr. Mary Huber and Dr. Caro Hatcher. For information write to Dr. Francis Lord, Coordinator of Special Education, Los Angeles State College.

Dr. James Carrell, Director of the Speech and Hearing Clinic, University of Washington, will be visiting professor at Stanford University during the summer quarter of 1957. Dr. Hayes Newby will be Acting Director of the Stanford Clinic and Director of the Audiology program. Courses of particular interest to be offered will include: Audiometry, Speech Reading, Advanced Speech Correction, and Stuttering. A limited number of scholarships and assistantships will be available for this session. Information may be obtained by writing Dr. Virgil A. Anderson, Stanford Speech and Hearing Clinic, Stanford University, Stanford, California.

The Northwestern University Summer Session program in speech correction and audiology will have a six week term and an eight week term, both beginning on June 24. Sequences of courses are planned for persons interested in public school speech correction, speech pathology, clinical audiology, the education of the deaf, aphasia, and cerebral palsy. A symposium on the neurological aspects of language will feature prominent doctors, teachers, and researchers who will visit the campus.

Meetings Announced

American Speech and Hearing Association, Netherlands Hilton Hotel, Cincinnati, November 20, 21, 22.

Speech Association of America, Hotel Statler, Boston, August 25-28.

American Association for Cleft Palate Rehabilitation, Hotel Cleveland, Cleveland, May 2-4.

Seventh World Congress of the International Society for the Welfare of Cripples, London, England, July 22-27.

Sixth International Congress of Otolaryngology, Washington, D. C., May 1957.

International Conference on Audiology, St. Louis, Missouri, May 13-16, 1957.

International Voice Conference (Laryngeal Research, Function, and Therapy) Chicago, Illinois, May 20-22. For information address: Dr. Hans von Leden, 30 North Michigan, Chicago, 2, Illinois.

The Conference on Rehabilitation Centers, Inc., Morrison Hotel, Chicago, February 25 through March 1, 1957.

Graduate Assistantships, Fellowships and Scholarships

Assistantships. Kansas University Speech Clinic; Kansas University Medical Center, Hearing and Speech Department; Cerebral Palsy Nursery School. Starting September 1957. Diagnostic and clinical duties. $1,200-$1,400, for two semesters, half-time work. Candidates working on master's degree allowed to take 10 credit hours per semester. Write to Dr. Richard Schiefelbusch, Director, Speech Clinic, Kansas University, Lawrence, Kansas.

Assistantships. Kansas University Medical Center. Audiology. Starting September 1957. Diagnostic and clinical duties. $1,200 for two semesters, half-time work. Allowed to take up to 10 credit hours per semester. Write to Miss June Miller, Director, Hearing and Speech Department, Kansas University Medical Center, Kansas City, Kansas.

Grants in deaf education. Kansas University Medical Center. Preschool for the Deaf and Kansas State School for the Deaf, Olathe, Kansas. Starting September 1957. Grants $300-$500 per academic year. Room, board and laundry in exchange for a minimal amount of supervision at the Kansas School for the Deaf. For details write to Miss June Miller, Director, Hearing and Speech Department, Kansas University Medical Center, Kansas City, Kansas.

Scholarships and Fellowships. Ohio State University. Audiology. Starting June, September, January, or March. Up to $1,000 for scholarships and $1,200 for fellowships for the academic year. Student carries full graduate load. Address W. Hayes Yeager, Department of Speech, Ohio State University, Columbus, 10 Ohio.

Clinical and research assistantship. The Ohio State University Department of Speech. Starting June, September, January, or March. Fifteen to twenty-five hours per week; two-thirds to three-fourths graduate load. $750 to $1,500 for nine months. Up to $1,800 for research in Cerebral Palsy program. Address W. Hayes Yeager, Department of Speech, The Ohio State University, Columbus 10, Ohio.

Clinical Assistantships. Purdue University. Starting July, September, or February. Twenty hours per week of clinical assistance. $1,500 for regular school year (10 months), $1,800 for calendar year (12 months); waiver of tuition fees. Student may enroll for 10 hours of graduate course work per semester. Ten hours per week clinical assistantships also available. Student may enroll for 14 hours of graduate course work per semester. Address M. D. Steer, Speech and Hearing Clinic, Purdue University, Lafayette, Indiana.

Research Assistantships. Voice Science Laboratory, Department of Speech, Purdue University. Starting September or February. Twenty hours per week of laboratory research assistance. $1500 for regular school year (10 months); waiver of tuition fees. Student may enroll for 10 hours of graduate courses per semester. Address M. D. Steer, Speech and Hearing Clinic, Purdue University, Lafayette, Indiana.

Teaching Assistantships. Department of Speech, Purdue University. Starting September or February, half-time. Teach two sections of Principles of Speech or serve as drill-master for several sections of Voice, Articulation, and Verbal Skills, or serve as clinician in the Speech and Hearing Clinic. $1500 for academic school year (10 months); waiver of tuition fees. Student may enroll for 10 hours of graduate courses per semester. Address A. H. Monroe, Department of Speech, Purdue University, Lafayette, Indiana.

Internships. University of Michigan Speech Improvement Camp, Shady Trails. Nine weeks starting June 17, 1957. Clinical work and graduate study at the camp at Northport, Michigan. Six semester hours of graduate credit. Camp pays University tuition and provides room, board and partial remuneration for travel and other personal expenses. Address John N. Clancy, University of Michigan Speech Clinic, 1007 East Huron Street, Ann Arbor, Michigan.

Clinical Assistantships. Bradley University. $1,530 to $2,040 with 12 to 18 hours of graduate study for school year, 1957 to 1958. Half of tuition remitted for graduate assistants. Write to Clara K. Mawhinney, Speech Clinic, Bradley University, Peoria, Illinois.

Assistantships. Syracuse University. Half time. $1,500 to $2,000 with six hours of remitted pay each semester at the Gordon H. Hoople Hearing and Speech Center. Address Louis M. DiCarlo, Syracuse University, Syracuse, New York.

Assistantships. University of Connecticut Department of Speech and Drama. Starting September 1957. Participate in Clinic activities up to 20 hours per week. $1,327 stipend for nine months. Other assistantships in a hospital setting may also be available. Applications to Robert F. Hejna, Department of Speech and Drama, University of Connecticut, Storrs, Connecticut.

Training Fellowships. Vanderbilt University School of Medicine. Starting September. Programs leading to the Master of Science degree in Speech Correction and Audiology, or teaching of Hearing Impaired Children. Fellowships pay tuition and monthly stipend of $100 to $130 for twelve months. Address Forrest Hull, The Bill Wilkerson Hearing and Speech Center, 2109 Garland Avenue, Nashville, Tennessee.

Clinical Assistantships. Stanford Speech and Hearing Clinic. $750 to $1,500 per school year, depending upon the training and experience of the applicant and number of hours. Hours range from approximately ten to twenty per week. General work with speech and/or hearing cases. Possibility of additional remuneration for summer sessions. Address inquiries to Virgil A. Anderson, Speech and Hearing Clinic, Stanford University, Stanford, California.

Clinical Assistantships. (Internships). Stanford University. For work in nearby hospital and medical centers. Quarter-time to half-time positions at salaries ranging from $1,200 to $3,000 on a twelve month basis. Address Virgil Anderson, Speech and Hearing Clinic, Stanford University, Stanford, California.

Clinical Assistantship. Stanford University and the United Cerebral Palsy Association of Penninsula Cities, Inc. $400 for half-time work during the six-weeks summer session in a nearby school for cerebral palsied children. Training and experience in this field required. Students furnish own transportation. Address Virgil Anderson, Speech and Hearing Clinic, Stanford University, Stanford, California.

Clinical Assistantship. Stanford University. $900 for ten to twelve hours per week in group or individual work with adult stutterers. Limited to students with some experience who are candidates for the Ph.D. degree. Possibility of additional remuneration for summer session. Address Virgil Anderson, Speech and Hearing Clinic, Stanford University, Stanford, California.

Teaching and Conference Assistantships. Stanford University. In connection with a basic course in voice and diction and the program in English communication for foreign students. Up to $1,200 per school year, with limited possibility of additional work in summer session. Master's degree required for teaching assistantships. Address Virgil Anderson, Speech and Hearing Clinic, Stanford University, Stanford, California.

Scholarships. Stanford Speech and Hearing Clinic. For students in the fields of audiology and speech therapy. No duties involved. $600 to $1,000. Address Virgil Anderson, Speech and Hearing Clinic, Stanford University, Stanford, California.

Scholarships. The Atlanta Junior League School for Speech Correction in cooperation with Emory University. $1,000 to $1,400 for graduate work in speech and audiology beginning September 1957. Graduates must meet entrance requirements of the Graduate School of Emory University. Applications should be addressed to Education Committee, Junior League School for Speech Correction, 2020 Peachtree Road, Atlanta, Georgia.

Assistantships. University of Southern California Speech and Hearing Clinic. 18 hours a week. $1,140 for the academic year. Address Milton Dickens, Speech Department, University of Southern California, Los Angeles, California.

Assistantships. University of Southern California Speech Department. Part-time teaching of students with foreign accent and classes in voice improvement. $1,140 for the academic year. Address Milton Dickens, Speech Department, University of Southern California, Los Angeles, California.

Graduate Assistantships. Speech Clinic, University of Michigan. 20 hours per week

or less. Stipends per semester for master's degree candidates $663.00; first year doctoral candidate $742.00; second year doctoral candidate $795.00; third year doctoral candidate $848.00. Summer session stipends are approximately half of those for the regular semester. Applicants may express a preference for work in one of the following seven divisions: Adult, Children, Dysphasia, Examining, Hearing, Student Clinic, or Research in Language Retardation in Children. Write to H. Harlan Bloomer, Director, Speech Clinic, University of Michigan, Ann Arbor, Michigan.

New Materials

Five of the Ten Life Situation Lip Reading Films are now available through the Speech and Hearing Clinic of the University of Southern California. These are 16 mm. sound films in color or black and white. The set of five in black and white sells at $74.50; in color, $225.00. Rentals for the set of five in black and white are $7.50, or $2.00 each; for the set of five in color, $15.00, or $3.50 each. Inquiries may be directed to Milton Dickens, Department of Speech or to the Department of Cinema, University of Southern California, Los Angeles, California.

'About Children with Cleft Lips and Cleft Palates', a 15 page booklet, is a guide for parents written by Eugene T. McDonald, Director of the Speech and Hearing Clinic of the Pennsylvania State University. It is printed and distributed by the Pennsylvania Society for Crippled Children and Adults, Inc., 1107 North Front Street, Harrisburg, Penna. The price for 199 copies is 20 cents each; for 100 copies and over, 15 cents each.

'Reminders, A Guide for Speech Correctionists' is an 80 page manual prepared by the staff of the University of Illinois Speech Clinic under the guidance of Severina E. Nelson and Frances Johnson. The booklet contains suggestions on procedures in surveying, scheduling, and professional reporting. Lists of equipment needs, including kinds of audiometers and recorders, books for various grade levels, and appendices of various kinds of charts, forms, case histories and reports, are included. The manuals are available at $2.50 per copy. Write Dr. Severina Nelson, Speech Clinic, University of Illinois, Champaign, Ill.

'Education for National Survival' is a new publication of the Office of Education, U. S. Department of Health, Education, and Welfare. A step-by-step outline for drafting civil defense plans for schools is included. This 88 page illustrated publication is available from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at 65 cents a copy.

Special Announcement

The Council of the American Speech and Hearing Association is beginning to consider candidates for the post of Executive Secretary. The position is being established as a full-time directorship. The individual selected will be in charge of the National Office which ASHA is setting up in Washington, D. C., on January 1, 1958. His duties will start at that time. The position will carry a salary commensurate with the responsibilities involved. The prime assignment will be to administer and nurture the activities of ASHA in such manner as to further the Association and the professions which the Association represents.

Persons wishing to recommend candidates or to submit letters of application should send these materials to Raymond Carhart at Northwestern University. Every communication will be held in confidence; each must contain enough information to supply the Council with a basis for preliminary judgment.

REPORT OF THE CONVENTION

American Speech and Hearing Association

CHICAGO, ILLINOIS, NOVEMBER 17-21, 1956

The 503-page stenographic report and the copies of reports submitted by officers and committee chairmen constitute the minutes of the 1956 Convention. These are on file in the office of the Secretary-Treasurer. The following abstract of proceedings includes all matters of business introduced by motions during the Council and Business Meetings.

Council Meetings

November 17, 1956, 1:30 p.m.

The following officers, officers-elect, and members of the Council were present: President James A. Carrell, presiding; Stanley Ainsworth, Jack Matthews, George A. Kopp, Robert West, Raymond Carhart, Virgil A. Anderson, Frederic L. Darley, Leo G. Doerfler, Jon Eisenson, Ernest Henrikson, John V. Irwin, Ruth Beckey Irwin, Gordon E. Peterson, and Charlotte G. Wells.

President Carrell called the meeting to order, expressed appreciation for what had been done in the last year, and presented the agenda with the hope that business could be conducted as expeditiously as possible.

Minutes of the 1955 Convention. Moved by Matthews and seconded by Darley that the Council dispense with the reading of the minutes. Passed.

Old Business. The only item of Old Business was the proposal to elect Chairman-Elect for the Clinical Certification Committee and the Committee on Ethical Practice.

Moved by Wells and seconded by Anderson that the matter of electing a year in advance the Chairman-Elect of the Clinical Certification Committee and the Chairman-Elect of the Ethical Practice Committee be referred to the Committee on By-Laws and considered later by the Council at its meetings. Passed.

Report of the President. This report summarizes items of business completed since January 1, 1956. Included are both actions taken after Council approval through mail ballot and executive actions from the President's office. A number of additional items of business were referred to committees and are included in the appropriate committee reports.

1. The following changes in committee structure were made with Council approval:

Clarence Simon was named chairman of the Committee on Association Planning to replace Margaret Hall Powers, resigned. Dr. Powers remained as a member of the Committee.

Jane Beasley was appointed to the Committee on Clinical Certification to replace D. E. Morley, (Speech), resigned.

Thelma Knudson was appointed to the Committee on Clinical Certification to replace Alice Streng (Hearing), resigned.

William Waldrop was appointed to the Program Committee to take charge of Local Arrangements.

2. The Association received a grant from United Cerebral Palsy of $5,000 to be used for scholarships. Administration of the fund was placed in the hands of the special UCP Scholarship Committee.

3. By Executive action, the President created a special United Cerebral Palsy Scholarship Committee, whose membership is identical with that of the Speech Correction Fund Committee.

4. The Council approved official endorsement by the Association of 'Services for Children with Hearing Impairment' prepared by the American Public Health Association. This was published in October, 1956.

5. The Council approved ASHA cooperation in a proposed International Voice Conference to be held in conjunction with the International Congress of Otolaryngology, Washington, D. C., in May, 1957. Dr. Jack Irwin was appointed to represent the Association in planning.

6. The Association received a proposal from Dr. C. E. Kinney that it join with other agencies in the formation of an Audiological Foundation. This was referred to Raymond Carhart for advisory comment. Dr. Carhart subsequently recommended that the Association express interest in any future discussions without a definite commitment. His recommendation received Council approval.

7. A joint meeting of the Advisory Council of the International Association of Laryngectomees and representatives of the American Cancer Society was held in Chicago, August 1. Dr. Jack Irwin represented the Association, substituting for Dr. George Kopp. It was recommended that ILA, ACS, and ASHA representatives meet in Chicago during the ASHA Convention to discuss standards for teachers of the laryngectomized. By executive action the President's office appointed Lester Hale, Chairman of the Committee on Clinical Standards in Speech, and Stanley Ainsworth, Chairman of the Liaison Committee to represent ASHA. A report and possible recommendations are expected at the current Council meetings.

8. The following persons were asked by the President's office to represent the Association:

Jon Eisenson represented the Association at a meeting of the National Health Council, New York, March 21 and 22.

Jack Matthews represented the Association at a meeting of the Eastern Speech Association, New York, April 14.

Ernest Henrikson was appointed to represent the Association in planning the Central States Speech Association meeting to be held in May, 1957. The Association has received a letter from Wayne N. Thompson, Executive Secretary, CSSA, acknowledging the distinguished services of Dr. Henrikson.

9. The Council approved a proposal to undertake publication of an abridged 'Proceedings of the Association' for the 1956 Convention.

10. The Council vote on proposed amendments to the By-Laws was as follows: (a) revision of Article VII, Section 2; 14 approve, (b) revision of Article XIII; 10 approve, 4 disapprove.

The President wishes to record formally his gratitude to members of the Council, Committee Chairmen, and members for their conscientious and thoroughly professional work for the Association during the past year.

Moved by Kopp and seconded by Doerfler that the report of the President be accepted. Passed.

Report of the Vice-President. Matthews presented an analysis of the 1956 Convention Program which included 42 sectional meetings distributed as follows: thirty formal papers, ten panel discussions, one film theater, and one major address by an invited 'outside the field' authority.

The following breakdown indicates the relative emphasis of topics: Audiology, 10; Articulation, 4; Stuttering, 4; Cerebral Palsy, 3; Aphasia, 2; Voice, 2; Cleft Palate, 1; Professional Problems (Public Schools), 4; Professional Problems (Colleges and Universities), 3; 'General' Sessions for Speech Correction and Audiology, 2; Experimental Phonetics, Speech and Voice Science, 5; Sigma Alpha Eta, 1; Film Theater, 1.

The 1956 program has 20% fewer sessions than the 1955 program. The 1956 Program Committee has attempted to schedule several 'general' sessions on topics which it felt would be of common interest to those in Speech Correction and Audiology. This year's program includes a slight increase in the number of sessions devoted to experimental phonetics, speech and voice science. The current program includes one session which is being recorded for possible publication.

Moved by Doerfler and seconded by Kopp that the report of the Vice-President be accepted. Passed.

Report of the Executive Vice-President. Ainsworth reported that, as in the past, his activities were divided between the Committee on Time and Place and the Committee on Liaison and its several sub-committees. The total report includes reports of sub-committees on: (1) Time and Place, (2) Liaison between Audiology and Otology, (3) Liaison with Federal Agencies, (4) Liaison with American Psychological Association, and (5) State Legislation and Certification. Liaison contacts and projects were conducted with the American Hearing Society, International Association of Laryngectomees, Interagency Committee of International Council for Exceptional Children, President's Committee on Employment of the Handicapped, and the Office of Vocational Rehabilitation. A detailed list of miscellaneous liaison activities completes the report.

Report of the Committee on Time and Place. Ainsworth reviewed the convention locations that have been approved. They are: 1957—Cincinnati, Ohio, Netherland Hilton Hotel; 1958—New York City, Hotel New Yorker; 1959—Cleveland, Ohio, Hotel Statler (selected subsequent to report). Council suggestions were requested for the 1960 meeting to be held in the West. No action had been taken for the 1961 Convention city in the Midwest.

Moved by Kopp and seconded by Carhart that the report of the Committee on Time and Place be accepted. Passed.

Report of Sub-Committee on Liaison between Otology and Audiology. Carhart explained the rationale for the 'no action' report of his sub-committee in its efforts to redraft a statement designed to improve understanding between otology and audiology. Moved by Carhart and seconded by Doerfler that the committee be continued and instructed to continue its present assignment. Passed.

Report of Sub-Committee on Liaison with the American Psychological Association. Ainsworth stated that the only activity of this committee had been Wepman's suggestion for rewording of APA principle 5.43 on page 700 of the *American Psychologist* of November, 1955. The lack of activity in this Committee was due to a decision on the part of the Chairman, who felt that a clear statement of speech correction and audiology and its relationships with other professions should be prepared before further active steps were taken. Ainsworth recommended that he would like to continue the committee as a sub-committee of the Liaison Committee rather than as a Special Committee.

It was agreed, without formality of motion, that the Committee on Liaison with the American Psychological Association, Committee on Liaison with Federal Agencies, and the Committee on Liaison between Otology and Audiology be considered and listed as sub-committees of the Liaison Committee.

Report of Liaison with the American Hearing Society. Ainsworth explained the proposal of the American Hearing Society to publish abstracts of papers presented on Audiology at the ASHA Convention.

Moved by Wells and seconded by Kopp that the American Speech and Hearing Association decline, with appropriate expressions of gratitude, the offer of the American Hearing Society to publish Abstracts of the Convention Proceedings. Passed.

Report of Liaison Sub-Committee on State Legislation and Certification in Speech and Hearing. Ainsworth presented the proposed functions of this Committee and a list of suggested members (one from each state) for the Council. He expressed a hope that the sub-committee would serve as a system for: (1) keeping more of our members informed of our relationships with other professions; (2) translating to more individuals the decisions and implications of these decisions, by the Council, the Standards Committee, and the Certification Committee; (3) encouraging local groups to use the personnel, facilities, experience, and status of the ASHA in solving local problems affecting our profession; (4) keeping more ASHA members informed of changes in and status of certification throughout the U. S.; (5) fostering the establishment of local standards for therapists which are consistent with ASHA standards; and (6) providing a channel through which local physicians and others in related professions could be made acquainted with ASHA and its professional standards.

President Carrell ruled that, in absence of negative expression, the Committee on Liaison is authorized to appoint its own sub-committee on State Legislation and Certification in Speech and Hearing.

Moved by Darley and seconded by Carhart that the report of the Executive Vice-President be accepted. Passed.

Report of the Secretary-Treasurer. Kopp presented a detailed explanation of how the Council's instructions had been carried out with respect to: (1) lettering, signing, and mailing Fellowship Certificates; (2) recording Minutes of Association meetings; (3) keeping the archives of the *Journal of Speech and Hearing Disorders;* (4) maintaining insurance of inventories at Interstate Printers and Publishers and in Detroit; (5) continuing bonds for the Secretary-Treasurer and his Administrative Assistant; (6) providing contingency and petty cash funds for officers and specified committees; (7) notifying Associates of increase of dues beginning with the sixth year of their Associateship; (8) preparing the copy for the Pre-Convention Flier, the Convention Program, and the Annual Mem-

bership Directory; (9) conducting the Placement Registry Service; (10) providing information to committees on National Office, Planning, Publications and Speech Correction Fund; and (11) securing necessary legal advice concerning procedures to be followed to establish an American Speech and Hearing Foundation.

The Treasurer's section of the report included: the Auditor's (Peat, Marwick, Mitchell & Co., Detroit) Report showing a total asset figure of $42,927.38 as of December 31, 1955; a statement of income for the year ending December 31, 1955, and a statement of accumulated earnings; a statement of Income and Expense for the period January 1, 1956 to October 31, 1956; an itemized statement of estimates of donations to the Association by various institutions; a breakdown of printing costs for the period January 1, 1955 to January 1, 1956; and a table of comparison of increase in the membership with increase of costs of running the ASHA for the period 1951 through 1955. (Extracts from this part of the report are printed following these minutes.)

During the discussion of the report, Kopp explained why new certificates for Honors of the Association had been made and presented a progress report on the preparation of a Recruitment Brochure.

Moved by Matthews and Seconded by Carhart that the report of the Secretary-Treasurer be accepted. Passed.

Report of the Business Manager of the Journal. Kopp's report contained: an explanation of the saving effected by making the Annual Membership Directory a regular issue of the *Journal;* a statement of the total value of the inventory of the *Journal,* bound volumes and reprints; a copy of the bid from Interstate Printers and Publishers for printing the 1957 *Journals;* and a statement of income from subscriptions for the years 1952-1956.

Moved by Kopp and seconded by Ainsworth that the Interstate Printers and Publishers bid for publishing the 1957 *Journal of Speech and Hearing Disorders* be approved. Passed.

Moved by Kopp and seconded by Henrikson that an expenditure of $150.00 be approved for preparing a mailing to include a reprint of the index of the 1956 *Journal* and a covering letter to encourage libraries to subscribe to the *Journal.* Passed.

Moved by Carhart and seconded by Wells that the report of the Business Manager be accepted. Passed.

Report of the Budget Committee. Kopp presented an estimated budget for the fiscal year January 1, 1957 to December 31, 1957, showing cash receipts of $48,624.00 and cash disbursements of $38,752.00. Enumeration of non-budgeted requests for funds during 1956, a breakdown showing how the Association dues dollar was spent, and recommendations concluded the report.

Moved by Kopp and seconded by Peterson that the budget be approved, subject to subsequent additions as determined by the Council in its current session. Passed.

Moved by Kopp and seconded by Darley that the 1957 convention Registration Fees be increased fifty cents to provide convention income to balance convention expenditures. Passed.

Moved by Kopp and seconded by Ruth B. Irwin that clinical certification fees be increased three dollars to cover the cost of issuing certification certificates. Lost.

Moved by Henrikson and seconded by West that the report of the Budget Committee be accepted. Passed.

Report of the Membership Committee. Kopp reported that the Membership Committee processed and approved for Membership 656 persons during the period October 31, 1955 to October 31, 1956. Of these, 646 were new applicants and 10 were applicants who held Associateship prior to January, 1951. Two hundred seventy-nine Associates were processed during the period October 31, 1955 to October 31, 1956. Two hundred seventeen Members and 208 Associates were dropped from the Membership rolls in 1956 for non-payment of dues. The report included a recommendation that an expenditure of $100.00 be approved for circulation of membership materials to training centers to encourage graduate student memberships in the ASHA and to stimulate undergraduate majors to become Associates.

Moved by Kopp and seconded by Peterson that the recommendation be approved. Passed.

Moved by Ainsworth and seconded by Carhart that the report of the Membership Committee be accepted. Passed.

Report of the Committee on Honors. In consideration of the report of the Committee on Honors, presented by Carhart, the Council approved the following mem-

bers for Fellowship: Moe Bergman, Ruth Millburn Clark, Geraldine Garrison, George Gens, Victor Goodhill, Arthur House, F. Lincoln D. Holmes, Kenneth O. Johnson, Mamie Jones, Charles Lightfoot, Jesse Villarreal, and John Webster.

Meeting recessed at 6:00 p.m.

November 17, 1956, 7:30 p.m.

The meeting was reconvened and called to order by President Carrell.

The same officers and members of the Council were present as at the afternoon session.

Report of the Committee on Committees. Carhart reported the recommendations for Committee Membership. Upon motion duly made and seconded, the committees as presented and those members appointed to serve on such committees were accepted by the Council. (This report is presented in full following these minutes.)

Report of the Committee on Publications and of the Editor of the Association. West presented the following report:

1. The report of the Editor of the *Journal of Speech and Hearing Disorders*, as transmitted to the Council, is part-and-parcel of this report.

2. The publication of the sectional program, entitled 'Stuttering: Therapy in Action,' shall be under the editorial direction of George J. Wischner, who chairs the meeting.

3. The Association shall, as soon as feasible, so alter its major publication structure as to provide two journals instead of one as at present, these two journals to be tentatively labeled, so as to indicate their different natures: *Journal of Research in Speech and Hearing*, and *Journal of Therapy in Speech and Hearing*. These two journals are each to be published quarterly.

4. The Committee received an outline for a brochure written by a committee of Sigma Alpha Eta designed to recruit able students to accept training leading to careers in the field of speech and hearing disorders. The Committee also takes cognizance of the outline, prepared by the Committee on Membership of the ASHA, also looking toward recruitment. The Committee approves both of these projects and asks that both Sigma Alpha Eta and our Membership Committee attempt to integrate these two projects and then submit their final script to the Committee for publication.

5. The Committee looks with favor upon a project to produce a motion picture film explaining the professional activities of workers in the field of speech and hearing. It is hoped that funds, from foundations or other donors, may be forthcoming to finance such a film, or that some safe plan may be formulated for amortization of investments made in such a film. When such financial support is assured, the Committee wishes to implement the project for the production of this film.

6. The Committee discussed the offer of the American Hearing Society to collaborate in the publishing of the abstracts of the professional meetings of the ASHA (Reported by Stanley Ainsworth, Committee on Liaison). It is suggested that the offer of the American Hearing Society not be accepted.

7. The Committee received a report from the Executive Vice-President recommending the preparation of articles to be used in dissemination of information to related professions. The Committee regards this project as of high priority and pledges the support of the Committee in the preparation of these articles and in their transmittal to appropriate key journals of these related professions.

TABLE 1. Analysis of manuscripts reviewed by the *Journal of Speech and Hearing Disorders.*

			March, June, Sept. 1955
		%	
Published: Dec. 1955, March, June, Sept. 1956	44	28.4	27
In process: As of October 1, 1956	75	48.4	44
Rejected: October 17, 1955—October 1, 1956	36	23.2	26
	155	100.0	97

TABLE 2. Analysis of pages published in the *Journal of Speech and Hearing Disorders.*

	Dec. 1955	*March 1956*	*June 1956*	*Sept. 1956*	*Total*	*Dec. 1954— Sept. 1955*
Abstracts	11	14	17	13	55	21
Articles	60	89	87	88	324	330
ASHA Business	0	35	1	11	47	66
Book Reviews	2	6	5	4	17	18
Graduate Theses	0	7	0	0	7	8
Index	6	0	0	0	6	7
Journal Matter	2	2	2	2	8	12
News	5	7	7	5	24	27
	86	160	119	123	488	489

Report of the Editor of the Journal of Speech and Hearing Disorders.

1. *Editorial Staff.* Four changes have been made in the Staff during the past year. Dr. James F. Jerger has replaced Dr. George Herman as an Assistant Editor, Dr. Paul Moore has been added as a fourth Assistant Editor, Dr. Frederic L. Darley has been added as an Associate Editor in the area of Organic Speech Disorders, and Dr. Hayes Newby has been added as an Associate Editor in the area of Hearing Disorders.

2. *Monograph Supplement.* No Monograph Supplements have been published during the year. At the present time, a manuscript is being considered by the *Journal* staff as a possible Monograph.

3. *Directory.* The Directory is now being published as a regular issue of the *Journal* rather than as a supplement to the September issue. However, the Directory will have no issue number and it will be paged separately from the volume for each year. The publication date has been set as October.

4. *The Journal of Speech and Hearing Disorders—Analysis of Manuscripts* (see Table 1).

5. *The Journal of Speech and Hearing Disorders—Analysis of Pages* (see Table 2).

Moved by Kopp and seconded by Peterson that the report be received. Passed.

Moved by Kopp and seconded by Carhart that the responsibility of completing the Recruitment Brochure be relegated to the Committee on Publications. Passed.

Moved by Peterson and seconded by Darley that when the Recruitment Brochure is prepared and ready for publication and distribution, the office of the Business Manager be authorized to proceed, subject to Council approval of necessary expenditures. Passed.

Moved by Kopp and seconded by Anderson that the recommendation to publish two journals as indicated in paragraph 3 of the report be approved. Passed.

After a prolonged and thorough discussion, the Council requested that the minutes show the Council's unanimous support of the proposal to publish two journals and that the affirmative expressions of opinion should be interpreted as a strong directive to the Committee on Publications to begin publication of the second journal at the earliest possible date.

Moved by Henrikson and seconded by Darley that the report be approved. Passed.

Report of the Committee on Clinical Certification. Ruth B. Irwin gave the following report for her committee:

1. Applications Received and Action Taken.

Since January 1, 1956, when the office of the Chairman of the Committee on Clinical Certification was moved from the campus of the University of Missouri to that of the Ohio State University, 228 (213 of which were new—others were applications for another certificate) applications for certificates have been received and about 122 certificates have been issued. (An analysis of applications in the certification file is given in Table 3.)

TABLE 3. Analysis of applications in the files of the Committee on Clinical Certification up to October 1, 1956*

A = Certificates granted; B = Applications being held due to lack of proper courses, transcripts, fees, membership, etc.; C = Applications that have been through the Committee, approved by the Council and are being held for certification fees and/or membership; D = Applications that are now in circulation among members of the Committee; E = Applications that are waiting to be processed.

	A	*B*	*C*	*D*	*E*
Basic Speech	553	154	23	28	24
Basic Speech Provisional	112		1	34	
Advanced Speech	118	38	8	1	1
Sponsor Privilege—Speech	16			1	
Basic Hearing	36	8	1	1	1
Basic Hearing Provisional	5			4	
Advanced Hearing	18	9	1	3	
Sponsor Privilege—Hearing	2				
Dual Certificate	47	28	7		2
Dual Provisional	5			2	
	912	237	41	74	28
Number of folders by actual numbers assigned			1454		
Number of folders checked			1292		
			162		

*Discrepancy in totals is due to (1) transfer of materials from one folder to another, (2) voiding of many folders, and (3) absence of information as to what level of ceritfication the applicant was seeking. Some of these applicants are deceased, no longer members, or have just discontinued the the certification process.

2. Other Activities of the Chairman of the Committee.

The Chairman, with the help of an Assistant employed, carried on correspondence with applicants for certification, wrote to members of the Certification, Standards, Ethics, and Hearing Examination Committees, responded to requests for information about certification from individuals and organizations, and maintained the files and records of the Committee. Several forms were reprinted to maintain the supply.

3. Activities of the Assistant to the Chairman.

A. During the period from January 1, 1956 to the present, the Assistant to the Chairman, (Mrs. Hanusek) prepared the applications received for transmittal to Committee members, made the preliminary evaluations of the applications, took care of the correspondence that could be handled routinely, maintained the files and records of the Committee, and prepared many of the reports submitted.

B. Since July 15, 1956, the Assistant to the Chairman has made a thorough study of 1454 folders of applicants for certification, bringing to light a number of problems needing solution. As a result of this review, the Committee has been able to re-activate applications which have been delayed because of lack of information.

4. General Observations about Certification.

A. Procedures in the Clinical Certification office have gone fairly smoothly. The process of completing the certification procedure is time consuming for eager applicants.

B. Members of the Committee on Clinical Certification have made real efforts to review carefully the applications sent to them as rapidly as possible. Sometimes undue delays have occurred because of lack of complete application materials, lack of proper signatures on applications and reports, lack of clarity in course listings for comparison with transcripts, failure to obtain an eligible sponsor, and confusion in course content as represented by course titles (particularly in content required in

mental hygiene, child development, and hearing testing). A statement now accompanies all application materials asking for description of course content of certain courses.

C. The evaluations made by members of the Committee differ in many instances. However, the Chairman has usually been able to resolve the differences and work out a majority decision from the reports of the members of the Committee.

D. Applications under the 'Grandfather' provision are still being processed.

E. The principle approved by the Council at the 1954 Convention for those who wish to request dual certification under the 'Grandfather' provision by showing evidence of professional activity in both Speech and Hearing has been invoked by two members this year.

F. Examinations prepared by the Examining Committee for those applying for Advanced Hearing Certificates have been administered to two candidates.

G. The membership of the Committee is large enough so that too much time is not required of any one member. The Committee is composed of eight speech members and four hearing members. An application for speech certificate goes to one of the four three-member sub-committees of speech and an application for hearing goes to one of the two three-member subcommittees of hearing.

H. A copy of the Code of Ethics is sent out with each set of application forms. A space is provided for the signature of the applicant.

5. Analysis of Expenditures for the Period from January 1, 1956 to October 1, 1956.

The amount alloted to the Certification Committee was $3500.00. On October 1, 1956, the balance was $1346.33. The estimated expenditures to December 31, 1956, are $425.00.

6. Certification Fees Received and Transmitted.

Those who have submitted applications for certification since January 1, 1954, have been liable for the certification fee of $15.00, half of which is paid when the application is sent in and the other half of which is paid when the certificate is issued. Between January 1, 1956 and October 1, 1956, the Certification Office has sent to the Secretary-Treasurer a total of $2721.50 in certification fees.

7. Recommendations.

A. Provisions in the Association's budget should be continued to enable the Chairman of the Committee on Clinical Certification to run the office as efficiently as possible.

B. Sponsorship education should be continued. Some attempt should be made at each training institution to make students aware of Clinical Certification provisions. The need for accumulating clinical clock hours and taking specific courses should be explained. Before the student leaves the university, emphasis needs to be placed on the pre-registration of the first year of experience.

C. The present Chairman agrees with the previous Chairman that certificates should be issued only two or three times a year. A semi-annual Council list would eliminate a lot of correspondence and confusion. At the present time, Council lists go out every other month and certificates are issued as soon as possible after the deadline for Council approval or rejection.

D. The relationship of ethical practices to clinical certification should be further studied. Should the sponsor be personally obligated for the candidate he is sponsoring?

Moved by Kopp and seconded by Matthews that the Council approve continuation of the present budget appropriation for the operation of the Clinical Certification Office during 1957. Passed.

Moved by Matthews and seconded by West that processed lists of members for certification should be mailed to the Council three times a year and that certification grantings should be made triannually. Passed.

The dates of Council and granting mailings are to be determined by the Chairman of the Committee with reference to the deadline date for copy for the Annual Directory.

Problems in recommendation '7D' were stated to be included in the reports of the Committee on Ethical Practice, the Committee on Clinical Standards in Speech, and the Committee on Clinical Standards in Hearing.

Moved by Doerfler and seconded by Henrikson that the report of the Committee on Clinical Certification be approved. Passed.

Adjourned at 11:00 p.m.

November 18, 1956, 9:00 a.m.

The following officers and members of the Council were present: President James A. Carrell, presiding; Stanley Ainsworth, Jack Matthews, George A. Kopp, Robert West, Raymond Carhart, Virgil Anderson, Harlan Bloomer, Leo G. Doerfler, Jon Eisenson, Ernest Henrikson, John V. Irwin, Gordon E. Peterson, Charlotte G. Wells.

President Carrell called the meeting to order and reviewed the unfinished agenda.

Report of the Committee on Honors (continued). Carhart presented the recommendations of the Committee for Honors of the Association.

In consideration of the report of the Committee on Honors, presented by Carhart, the Council awarded the Honors of the Association to Margaret Hall Powers and Charles Van Riper.

Adjourned at 12:30 p.m.

November 18, 1956, 2:00 p.m.

The same officers and members of the Council were present as listed for the morning meeting.

President Carrell called the meeting to order and asked for the report of the Committee on Nominations.

Report of the Committee on Nominations. Bloomer presented a slate of nominees for Council approval. In consideration of the report of the Committee, the following individuals were approved to be presented to the Membership for election:

President-Elect: Jon Eisenson, Grant Fairbanks
Vice-President-Elect: Leo G. Doerfler, Duane Spriestersbach
Council (Hearing): William Hardy, Hayes Newby
Council (Speech): Sylvia Onesti Richardson, Kenneth Wood

Report of the Committee on Association Planning. Simon abstracted the report of the Committee as follows:

At the outset of this report the Planning Committee freely acknowledges its debt to those who shared their knowledge and experience. In traditional academic fashion, the Committee began by seeking information and suggestions from the officers of the Association and from members of other committees. Without the generous and continuing help of those who carry the burden of Association leadership and conduct its manifold activities, this report could not have appeared in its present form. For this willing and valuable assistance we are grateful.

As some members of the Executive Council already know, this Committee was directed and guided in its deliberations by three initial influences: the reports of previous Committees on Association Planning, a challenging presidential instruction, and a view of the function of a 'Planning' committee. Since these have affected both the aim and the nature of the recommendations presented here, some elaboration constitutes an appropriate introduction to this report.

The comprehensive reports of previous Planning Committees clearly indicated that little gain could result from continued discussion of the significant problems so thoroughly explored in previous years. Consequently, Committee attention turned quickly to new areas of Association needs.

The group early sensed a distinct need to review the reason for its existence, and to outline and limit its own function. Some care seemed required to avoid tactless and wasteful duplication of Committee activities—a possibility in any complicated structure.

So far as could be determined from the minutes of the Association, and from discussions with officers and members of the Council, the Planning Committee exists as a standing Committee of the Association and is charged with the responsibility of recommending such changes in organization, activities, and methods of doing business as may facilitate the attainment of the purposes to which the Association is committed. We found nothing to indicate that the Planning Committee is, or ever should be, a mentor or critic, any critical review of Associational activities being quite properly held as Council business. A Planning Committee has, instead, a primary concern with the future; it assumes the responsibility of anticipating desirable evolutionary trends in policies and procedures of the Association, and of working constructively to increase the organizational efficiency and the professional stature of the Association.

With this background, therefore, it should be obvious that the following recommendations are tuned to the future and intend no implication that we are not doing a good job now. They do intend to sug-

gest, strongly, that certain changes in activities and operations of the Association will assure a better future job; there are things we need to do to keep pace with our changing demands and opportunities. Naturally, most of the procedures suggested by this report depend on someone doing some work—seemingly an inevitable consequence of planning for the future. It is the settled belief of the Committee, however, that the recommended changes will pave the way to increased efficiency and thus lessen the burdens now borne by a relatively small proportion of the membership. As this Committee reviewed Association business of the past years, it was impressed repeatedly by the prodigious—and sometimes unrecognized and unrewarded—labors performed for the Association by able and dedicated members.

Within its stated province of seeking ways to provide for necessary evolutionary trends, the Planning Committee presents here only the recommendations that seem most urgent. Final disposition, and the specific mechanics of any proposed innovation, remain the function of the Council. It is in this spirit of the future, therefore, that the Planning Committee presents this report to the Council and urges the approval and immediate implementation of the recommended procedures.

I. Executive Secretary and National Office.

1. The Planning Committee supports firmly and enthusiastically the previous recommendation for the employment of a full-time Executive Secretary and the establishment of a permanent National Office in an appropriate location. Again and again the Planning Committee has seen evidence that however good may be the job we are doing now, we could do it better with an organization and basis of operations similar to those of our larger and somewhat older sister organizations. Such change seems a necessary basis for the full growth and development we all desire, and this Committee urges immediate Council action in that direction.

2. Even with its enthusiasm for this recommendation, the Planning Committee still feels obligated to point out that much can and should be done during, or prior to, the establishment of a national headquarters. While certain highly desirable activities will be facilitated by the new set-up, to warp that fact into an argument that nothing can be done until then is not only a capitulation to a spirit of futility, but is highly detrimental to the most efficient use of the present pattern of procedure. The subsequently listed recommendations, therefore, are made for consideration *now*. They are of immediate concern, and are not dependent on basic changes in our present methods of doing business. The Committee therefore urges the immediate activation of the recommendations approved by the Council.

II. Membership.

The Committee on Association Planning believes there is need for a more active program to obtain and keep a larger membership. With an ever growing number of workers in the field, increased attention to membership promises valuable returns to the Association, not only from increased professional leadership and influence, but also through increased financial support for the inevitable extension of services required by the growing profession.

1. New Members.

The Committee on Membership has been concerned largely with the processing of applications for membership. In addition, it has prepared a brochure for recruitment of young people into the profession (not recruitment for ASHA membership, though this might be a by-product), and also assisted in the preparation of recruitment brochures for the United Cerebral Palsy Association of New York, for Occupational Briefs, and B'nai B'rith.

Evidence presented to the Committee indicates that many potential members are now working in the field; these should be informed of and invited to join ASHA. The Committee on Association Planning therefore recommends:

a. Expansion of the functions and responsibilities of the Committee on Membership to include wider and more vigorous recruitment of new members, with an increase in the size of the Committee to insure widespread geographical representation and contacts.

b. Encouragement and support from the Council for thorough exploration by the Membership Committee of ways and means of adding to our membership. The Planning Committee suggests some approaches; many others will occur to the active and experienced Membership Committee.

(1). *Maintain systematic contact* with the heads of speech and hearing train-

ing programs in the colleges and universities, urging their active and regular encouragement of students (both undergraduate majors in the field and graduate students) to join ASHA as associates or, if eligible, as members.

(2). *Prepare an invitation to membership* which will also describe the nature, purposes, and services of ASHA, and list the membership and certification standards. Supplies of this leaflet should be sent to the heads of training programs for distribution to students.

(3). *Follow up* all members of Sigma Alpha Eta with this invitation.

(4). *Provide Association membership* at a reduced rate to full-time undergraduate majors as a means of furthering their early professional orientation, and of holding their interest in later full memberships.

(5). *Develop more awareness of and interest in ASHA* as the principal professional association in speech and hearing by awarding a *Journal* subscription each year to the outstanding student in the speech and hearing program at each of the training centers (recognizing that the number of centers would have to be limited in some feasible way).

(6). *Inform and invite non-members of the Association already working in speech and hearing* whenever lists of their members can be obtained from state and local speech and hearing organizations, state and local ICEC groups, or the speech and hearing sections of general education organizations.

(7). Investigate possible *means of reaching those in speech and hearing who are not affiliated* with organized groups of the above type.

(8). Explore *channels for publicizing the Association to those in related sciences and professions* who might be potential members.

(9). Considerable thought should be given to the potential profit from the *establishment of one or more subcommittees of the Committee on Membership* for more concentrated work on these and similar projects.

2. Present Members—Renewals.

The Planning Committee recognizes that holding a present member is just as important financially and professionally as adding a new one, and deplores the present lack of adequate information in a number of rather important areas. Through the assistance of our Secretary we do know the number of members who have failed to renew in the last two years, but at the time of this report there is no way of knowing *why* they severed their connection. Nor do we have comparable figures for other organizations of similar size and professional specilization to use as a basis for estimating the relative size of this problem within our organization.

At present, the data indicate a 1954 membership of 2,373. Of these, 2,194 (92%) renewed for 1955, while 179 (7.5%) dropped out. Perhaps, a clearer picture can be given by considering the

TABLE 4. Employment classifications of members and drop-outs of the American Speech and Hearing Association.

Types of employment	*1956 members*	*1956 drop-outs*
	%	%
College or university	18.0	11.0
College or university hospitals	2.5	0.5
Hospitals—(non-educational)	5.0	1.0
Public schools	32.5	38.5
Private practice	4.0	1.5
Special institutions and clinics	12.0	9.5
Graduate students	3.0	1.0
State departments of health	1.0	1.0
Miscellaneous (retired, none stated)	20.0	33.5
Federal government	2.0	2.5
	100.0	100.0

proportions of the 1955 membership gained by renewals and by new members.

Total members (1955)	2,947	
Renewals (from 1954)	2,194	74%
New members	688	23%
Returned drop-outs	65	3%
		100%

The Secretary also supplied information concerning employment classifications of renewals and drop-outs for 1956 (see Table 4). These data show that, in general, the percentages in the various employment categories are roughly the same for drop-outs as for renewals. The discrepancy in the 'Miscellaneous' category is not surprising. Members may be expected to drop out sometime after discontinuing their professional activity through retirement or for other unspecified reasons. The discrepancy, however, in 'Public Schools' warrants further study.

In view of the obvious detriment to income and lack of an adequate appraisal of causative conditions, the Planning Committee recommends:

a. A follow-up study of members who drop out (type of professional affiliation, specialization, certification, etc.) and their reasons for their failure to renew. Further, the Committee suggests an extension of this study to previous years, on a sampling basis, with the added inquiry concerning reasons for some delayed returns to the fold.

b. That the Committee on Membership, either as part of, or in addition to, the follow-up study, establish the policy of sending a friendly letter (which could be a form letter) to each member who resigns or who fails to pay dues, asking for his reasons, inviting him to continue his membership, and, where grievances are involved, attempting to resolve them directly or through referral to the appropriate officer or committee.

3. Attitudes and Morale of Members.

Like others of the Association, the Planning Committee has been aware of some undercurrents of dissatisfaction among the membership. Varying proffered estimates of the extent and significance of these expressions of discontent have not exactly clarified either the amount, or the degree, to which they exist or are justified. Yet, intelligent future planning of association affairs depends upon a better understanding than we now have of the feelings and attitudes of the members concerning their Association. Accurate knowledge of membership attitudes obviously is a necessary preliminary to any constructive or alleviatory procedures—particularly at this time when various drastic reorganizational plans are under consideration. Therefore, fact-finding became the business of this Committee.

The Committee member assigned the task of securing this needed information prepared a four-page questionnaire and cover letter (see copies appended) which were printed and mailed to all members (not associates) of the Association. Preliminary informal inspection of returned questionnaires has provided some useful information and raised real questions. Unfortunately, however, complete analysis of the questionnaires has required so much time, even through a Keysort card process, that final results cannot be made available now. Consequently, the Committee on Association Planning should give much time and thought during the next year to the information and suggestions revealed by the questionnaire study. With the approval of the Council, it will so instruct itself.

III. Intra-Association Communication.

The Planning Committee has been confronted with considerable evidence that the continuity and efficiency of our Association are being lessened by an inadequate circulation of information to our membership, to various committees, and even to the officers themselves. It is the Committee's opinion that we are faced with a problem of communication within the Association that is larger and more pressing than would appear to the casual eye.

1. Communication with Members.

Comments of members of the Association which have come to the attention of the Committee on Association Planning, and preliminary inspection of the completed questionnaires mentioned above, both support the opinion that there is widespread feeling among the membership that they have little opportunity to know what the Executive Council and the various committees are doing. For the general welfare and future strength of the Association, the Committee on Planning stresses better communication with the membership as imperative, and recommends specifically:

a. That the Council provide in the 1957 budget for the publication of a President's Newsletter, at least twice a year, in which the President will report to the membership on Association affairs,

and include such other information deemed of value for the general interest and morale of the members.

b. That Council deliberations be communicated to the membership in greater detail so that reasons for actions will be more generally known and understood, and, therefore, supported.

c. Publication of the Report of the Committee on Association Planning either in full (or by a reasonably full résumé prepared by the chairman) either in the *Journal* or in some other channel to be designated by the Council. Without such reporting, the general membership has no means of knowing proposed changes in policy and procedure, and thus must either follow blindly or surrender affiliation.

d. The publication of more complete minutes of conventions, including summaries of committee reports in the *Journal* or by other means. As each committee report is acted upon, the Council should stipulate whether it should be published in full, in summary, or combined with other reports. In view of the evidence the Committee has seen, such amplified publication seems imperative to keep presently interested but non-attending members informed of Association plans and practices, as well as proposed or potential changes.

e. Publication of a convention report as an Annual Supplement to the *Journal*, to provide the membership with the minutes of the Convention, Committee reports, and, as an added touch, perhaps a letter from the incoming President to the general membership. Most practically, this report might include the *Directory of the Association* with its accompanying information; the entire report might be supported, to a considerable extent, by paid advertising, this advertising to be solicited at the outset from educational institutions only, if a majority of the Council should share a sometimes-expressed fear that publication of advertising from commercial organizations constitutes endorsement of their products.

2. Communication—Officers and Committees.

a. For increased efficiency of Association business through greater continuity and coordination of effort, the Planning Committee recommends better communication between current committees and their successors. As a means to this end, the Committee suggests that it be accepted associational policy that each officer of the Association and each chairman of a standing committee should have in his possession a file of the business of that office or committee in preceding years, to which he will add the current record and reports, and subsequently pass the accumulated file to his successor. This now is standard practice with certain of our officers and committees; the effect of this recommendation is to make the practice universal.

b. Throughout the year, the Planning Committee has been most aware of a need for closer articulation of its deliberations with the work of other standing and *ad hoc* committees. Repeatedly, the Planning Committee has felt itself handicapped by a lack of information concerning developments in the areas concerned with the specific activities and business of the Association. It has been forced to steer blindly between seeming neglect of certain areas on the one side, and threatened duplication or interference on the other. The Planning Committee therefore earnestly requests the chairman of each committee of the Association to supply the chairman of the Planning Committee with a copy of his report to the Council. Were the Planning Committee to state the full extent of its need, it would request interim reports as well. From a knowledge that interim reports are not always available, and out of the healthy fear of making a nuisance of himself, the chairman of the Planning Committee foregoes the request, but ventures a very broad hint.

IV. Financial Policies and Procedures.

The needed and desired expansion and facilitation of many of the Association's activities depend primarily on its ability to finance them. Furthermore, since many legitimate and valuable activities (present and anticipated) are likely to compete for more funds than may be available at a given time to support and to sustain them, it is useful for the Association to consider a method of management of expenditures that will be in accord with the best interests and wishes of the membership. The Planning Committee could be charged with gross negligence were it to fail to consider the financial operation of the Association as that involves, first, sources of income and items of expenditure, and, second, the mechanics of our fiscal procedures.

TABLE 5. Per cent of income and disbursement for items in the projected budget for the period January 1, 1957 to December 31, 1957.

Income ($48,624) % of total		*Disbursement ($38,677)* % of total	
Dues		Publications	
Members	56	Printing	42
Associates	7	Other costs	19
Publications	20	Business	
Convention	10	Convention	13
Certification fees	6	Business office	13
Investments	1	Certification	7
		Other committees	6

1. Items of Expenditures and Sources of Income.

The Secretary-Treasurer has furnished the Planning Committee a copy of the budget for the period of January 1, 1957 to December 31, 1957 to be presented to the Council at the November 1956 Convention. It is interesting for our purposes to categorize projected items of income and disbursement and to determine their proportionate shares of the respective totals (see Table 5). The Planning Committee noted particularly the following items as indicative of the need for some future modifications:

a. Publications account for 51.5% of income (20% plus not less than one-half of income from dues as provided by the By-laws), and 61% of disbursements.

b. Clinical certification is still being subsidized—probably by more than shown in the budget because certain costs are borne by the business office.

c. The Convention just about pays for itself.

d. Comparison with previous budgets seems to indicate an increase in disbursements for managing the business of the Association relative to outlays for publications.

e. Income exceeds disbursements by approximately $10,000.

f. This budget does not reflect the contributions of space and staff time made by institutions on which certain activities of the Association are based—for example, Wayne University—Office of the Secretary-Treasurer, University of Michigan—Office of the Editor of the *Journal*, Ohio State University—Office of Clinical Certification.

At the present time the Committee has no wish to point up direct implications from any one of the preceding comments, but the prospect of changing patterns and emphases of our operation inevitably suggests the need for sophisticated monitoring of the items on which the Association spends its money, as well as attention to an increase in income.

Our consideration of the financial operations of the Association thus lead us to the following recommendations:

a. We agree with previous Committees that in the light of anticipated needs we must increase our income, and request full consideration of at least these possible services:

(1) Use every resource and technique at our disposal to increase membership.

(2) Increase fees for certification.

(3) Increase income from publications by institutional charges per page, wherever possible, by increasing subscriptions and by paid advertising.

(4) Increase convention registration fees, except for students.

(5) Consider foundation-type support for special needs.

(6) Reconsider the dues structure after studying results of the questionnaire designed to determine attitudes of the membership.

(7) Encourage bequests and devises to the Association.

b. That the Council authorize a program of analysis and study leading to long-range forecast of the future increases in income needed to support the growth of the Association.

2. Mechanics of Fiscal Procedures.

In general, the financial management of any organization consists basically of collecting funds and spending them. The spending process in turn may be broken down into requesting funds from the organization (budget making), allocating funds (budget approval), and disbursing funds (paying bills). Common management principles indicate that requests for funds shall be made by those who are directly involved in the activities that require the outlays and who, therefore, are in a position to know and present their individual needs. Allocation, however, is a function of policy-making, top-level administration. Budget approval and adoption involve an organizational point of view; they are important in the determination of over-all organizational policy.

For the American Speech and Hearing Association, at the present time, a Budget Committee composed of the President, the Editor of the Association, and the Secretary-Treasurer, as required by the By-laws, makes up the budget and submits it to the Council for consideration and action. In this area, as in others, the Planning Committee believes that a good job is being done; Association funds have been handled carefully and judiciously by the individuals involved. There are, however, certain difficulties inherent in this procedure which may well operate detrimentally in the future.

Under present working conditions, the Council appears to have neither the time nor the necessary information to give to the budget the detailed consideration demanded by present legislation, and that it merits in terms of the general outlook and purposes of the Association. It is as though Congress itself rather than its sub-committees had to review in detail the departmental budgets for which it is legally responsible as parts of the whole. Further, in present practice, the requesting and allocating functions appear not to be separated. In reporting this fact we do not wish to imply that these functions have been performed inadequately, for they have been carried out exceedingly well. We do question the principle of fusing them in practice, particularly as the Association increases in size and in complexity. With a view to the future, therefore, the Planning Committee recommends:

a. The establishment of a standing Committee on Finance, responsible, of course, to the Council. Among the primary services of this committee to the Association may be listed its responsibility to:

(1) Collect and scrutinize budget requests with the purposes of recommending allocations to the Council, and supplying such information as Council deliberations may require.

(2) Study income and disbursements in terms of the over-all needs and purposes of the Association. For example, is it desirable, in order to increase the Association's financial flexibility, to change the by-law that requires no less than half of the income to be applied to publications, or perhaps to modify other current disbursement practices? May a growing organization incur a short-term deficit to foster its growth; under what circumstances; to what extent? Or noting a budget surplus, is it as unwise to spend too little as to spend to much?

(3) Monitor the investment program of the Association.

We repeat that we believe the Association's finances have been well managed, but we must begin to organize ourselves according to principles that prepare us for an inevitable increase in the scope and in the complexity of our responsibilities and of the activities that stem from them.

V. Certification.

This Planning Committee, like its predecessors, has been concerned with the heavy burden borne by the Committee on Certification and with the difficulties under which it has worked. With no desire to instruct or advise another committee in the area of its operations, this Committee availed itself of helpful information supplied by the chairman of the Committee on Certification to discuss the critical problems involved.

Inevitably, the Committee raised the issue of accrediting various institutions for purposes of certification. Reluctantly, however, the Committee reached an opinion that, desirable as this plan may be in many ways, additional fact-finding and clear scrutiny must yet precede a definite recommendation. As examples of the kind of questions which seem unanswerable now are such as: Is the Association ready for this degree of decentralization? Is this procedure compatible with the aims and nature of the Association? Does a possible gain in speed warrant this delegation of one of the major activities of the Associa-

tion, and one which, in the opinion of some at least, is extremely critical to the life and prestige of the organization? Are there other, and perhaps more convenient ways of facilitating certification?

These questions obviously are concerned with basic policy, and do not deal with the probably even more difficult ones of by whom, how, and on what bases, shall selected institutions be designated to act in lieu of central authority?

In view of the knotty problems involved, therefore, the Planning Committee recommends Council approval of the following activities which are possible now, and which promise immediate relief as well as mediate relief.

a. Authorize the Committee on Certification to meet at times and places other than those of the national conventions, and appropriate the funds to defray the necessary expenses. The face-to-face committee meeting is an excellent way of doing business. Industries and many learned societies find that a fully attended committee meeting with a well-planned agenda is an economical way of accomplishing the maximum result in the minimum amount of time. The Planning Committee is firm in its belief that uninterrupted meetings would go a long way toward breaking the 'bottleneck' that has developed, and, in addition, enable the Committee on Certification to make valuable suggestions for the improvement of present techniques and practices.

b. Encourage critical study of a program of certification by institutions and other possible means of expediting the certification of members. With the wealth of material in its files and its practical experience, the Committee on Certification seems ideally situated to conduct such studies. As this activity could seem 'the last straw' to an already overburdened committee, however, the Executive Council may wish to refer this study elsewhere, with the information and experience of the Certification Committee as valuable resources.

VI. Relations with Other Organizations and the Public.

The Planning Committee considered many facets of the critical need for closer and more functional relationships between the American Speech and Hearing Association and various professional societies, foundations, and governmental agencies. Of this need there can be no doubt; concerning the possibility of a long-term, full-fledged program of public relations at the present time, the Committee is most skeptical. From the experience of some of our past and present officers who have given days and weeks to representing the Association to societies and agencies, we can draw but one conclusion: The job cannot be done by 'part-time' representation, however able and enthusiastic the attempts may be. Prestige and money are being lost through the lack of a full-time Executive Secretary and a national office.

Yet, the spirit of 'if not everything, then nothing,' is not accepted by the Planning Committee. On the contrary, it commends to the consideration of the Council the following activities to foster public relations:

1. Provide bibliographical information to libraries and to interested, or can-be interested, agencies.

2. Establish a concerted effort to place the *Journal* on the shelves of all medical and school libraries.

3. Consider the feasibility and probable gain from publishing, in the not too distant future, a journal for the general public, comparable, perhaps, to *Today's Health*, published by the AMA.

4. To avoid the possibility of confusion in the public mind and embarrassment within our ranks, ASHA should avoid, in so far as practically possible, adopting policies or procedures which would seem to authorize the Association to speak on matters having to do with clinical services and research on speech and hearing problems as though it were speaking for individual speech correctionists and audiologists. While the Association, with complete propriety, can and should distribute informational articles which have appeared in the *Journal* or that have been commissioned by the Editorial Board, it is on highly questionable ground if it seems to say what is true or not true about scientific or theoretical matters. There is a sharp distinction between official organizational information concerning such items as membership and certification regulations and requirements on the one hand, and matters that are essentially theoretical, clinical, and experimental on the other. The widest possible dissemination of the former by the Association is an aid to any public relations program.

VII. Definition of the Association.

With unhappy frequency, Committee discussions were interrupted by uncertainties concerning the nature and aims of the American Speech and Hearing Association as an official and operating organization. Repeatedly the Committee was forced to ask: What are we, really; what *should* we we do? Are we a professional organization, or a learned society, or some of each? What are our service opportunities and demands? In what role or roles do we, or should we, appear to our members, to other similar organizations, to governmental agencies, and to the general public?

During the past year the Planning Committee, through its study of the ASHA and some scrutiny of other societies, developed a keen awareness of the wide and critical difference between the opportunistic and haphazard expansion shown in some organizations, and the pre-planned growth and development in others. As human knowledge grows, seemingly all organizations, university departments, commercial institutions, professional, the learned and trade societies, undergo regrouping and realignment as well as changes in emphasis. In the absence of formulated objectives and policies, the inevitable decisions concerning modification of existing activities, or the addition of new ones, may be made opportunistically or impulsively, directed toward the duplication of the present, or even sometimes settled most quickly on the basis of individual interest and prejudice. Organizations grow in strength and stature, moreover, by avoiding both overenthusiastic opportunism and its opposite, stagnation in rigid constitutional provisions and an outmoded organizational structure.

The Planning Committee has observed that, in general, learned and professional associations, like academic departments, group themselves around problems, each to its own. Clearly, the American Speech and Hearing Association is grouped around the problem of the disorders of speech and hearing, and carries the attendant triple responsibility of training and the setting of standards, of seeking and publishing new knowledge, and of service to people—members and non-members.

Therefore, the Committee on Planning requests the Executive Council to:

1. Give immediate attention to the need for clearer definition of the nature and objectives of the American Speech and Hearing Association.

2. Provide for the publication of the stated aims and objectives. It is Committee opinion that this material might well constitute part of an *Associational Brochure* for use in furthering the Association's relations with present and prospective members, related professions, and the general public.

Summary. From its observations and fact-finding, the Committee on Association Planning is convinced of the vitality and professional stature of our Association. Its affairs are managed competently, and with more than common absence of internal friction and confusion. Nevertheless, the Committee believes there are some better ways of doing our present business and also new jobs we should be doing.

Within its province of seeking ways to promote organizational efficiency, adapt to evolutionary trends, and thus to further the professional significance and influence of the Association, the Planning Committee has presented the recommendations that, in its view, seem most urgent. Changes have been suggested in the relationship with the membership—present and potential, in financial policy, and relations with other organizations and the public. The specific recommendations, as stated, concern: (I) Executive Secretary and National Office; (II) Membership; (III) Intra-Association Communication; (IV) Financial Policies and Procedures; (V) Certification; (VI) Relations with other Organizations and the public; and (VII) Definition of Associational Objectives.

To these ways of improving the efficiency of current operations and furthering the growth of our Association, the Committee on Association Planning urges full consideration by the Executive Council.

Moved by Kopp and seconded by Herikson that the report of the Committee on Association Planning be received. Passed.

Moved by Kopp and seconded by Irwin that Section II of the Report be approved with instructions to the Membership Committee to appoint a sub-committee with the responsibility of recruiting new members in the Association. Passed.

Moved by Peterson and seconded by Ainsworth that Section III, 1, a, be accepted in principle. Passed.

Moved by Matthews and seconded by Henrikson that Section III, 1, b, c, d, e, be referred to the Committee on Publications. Passed.

Moved by Ainsworth and seconded by

Anderson that Section IV, 2, a (1), (2), (3) be referred to the Planning Committee for further consideration. Passed.

Moved by Peterson and seconded by Anderson that in consideration of the recommendation in Section V, a, the Budget Committee be authorized to provide the expenses of a meeting of the Certification Committee, when requested by the committee, according to their discretion. Passed.

President Carrell called attention to the consideration previously given by the Council to the suggestions in Section V, b, and Section VI of the report and called for approval of the report as amended. Passed.

Report of the Committee on Clinical Standards in Speech. Hale presented the following report:

Part I. Committee Action

1. The formal work of the committee has been entirely by correspondence except for a Committee meeting scheduled for Sunday, November 18, at 11:30 a.m., in connection with the convention.

2. The Committee had only two specific cases referred to it by the Certification Committee. These both involved people who requested basic certification in speech and presented credentials from foreign schools. In both instances the Standards Committee recommended to the Certification Committee that certification not be granted without administration of an examination.

The decision was made without prejudice to the applicant in either case, although one presented much more supportive evidence of competence than the other. The opinion was based on the fact that the credentials could not be evaluated in terms of our certification requirements and we had no other evidence of the nature of the applicant's training.

3. The Committee was asked to express itself concerning the routine process for handling foreign applications. It was generally agreed that the Committee could not justify any blanket certification approvals for applicants on the basis of graduation from any given foreign training center, for that would be tantamount to institutional certification which is not our present policy. To decide each case on its own merits is equally unsatisfactory, since there is too great a variation in type of credentials. The consensus seems to be that each candidate should apply to the Certification Committee and present the usual credential report. When these merit it, approval should be given for the candidate to take a comprehensive examination. Upon satisfactory completion of the examination, the sponsorship provision should be enforced with even greater care and surveillance by the Standards Committee both as a protection to the candidate and to the Association. The sponsor should be charged with the responsibility to testify for clinical practice as well as for professional experience.

4. Opinion was sought concerning the disposition of the collection of questionnaire replies describing curricula in the training centers. The opinion of the previous chairman of the Standards Committee and of the Certification Committee is that they will serve no further usefulness to the Association and should be destroyed. The material is now so out of date that a reassessment would hardly be worth the time.

5. It is the opinion of the committee that more reliance should be placed upon evaluation and recommendation of sponsors in using the 'Grandfather' provision and in accrediting experiences not pre-registered. If this is done, the Committee should be more specific in its directions to sponsors so they would know better how to recommend un-preregistered experience.

6. Several questions have been raised to the Certification Committee and to the Committee on Ethics, asking whether a person should be granted certification when his personal ethical responsibility or personal stability was in question, even though he had adequate academic and experiential requisites. The Committee on Ethics has said it is not within their province to investigate matters of this kind, and the Certification Committee has only the credentials to guide them, plus approval of sponsors.

The Committee on Standards believes it should 'spell out' more specifically the sponsor's responsibility to certify applicant's personal qualifications; i.e., his emotional stability, personality factors, clinical rapport, and general ethical dependability. A clearer statement of sponsor responsibility might be a preventive measure which would eliminate some punitive action the Committee on Ethics might have to undertake later when the applicant had become a qualified member. If the Committee on Ethics is to function at all in the matter of applicants, it would be in consideration of members who have abused the sponsorship privilege.

7. The Committee awaits recommendation from the Subcommittee on Standards in Public School Speech Correction on the interpretation of public school practice teaching experience as allowable toward the 200 clock hour clinical practice requirement. However, it has expressed itself as generally favoring recognition of such internship or practice teaching programs as clinical practice if the contact hours reported are actual clinic experience and under supervision of clinic personnel.

8. The majority of the Committee believes no exception should be made to the policy that sponsorship privilege is to be granted only to those who have actually been *awarded* the advanced certificate. However, it is recognized that lack of duly qualified sponsors in some areas of the country make real 'contact-sponsorship' impossible. It is also no secret that many individuals who have fulfilled the requirements for advanced certification and sponsorship have not completed the certification process, but are teaching in training centers and supervising clinical work of students.

The chairman's opinion based on Committee members' reactions to this problem is that in cases where 'local' sponsors are not available, 'long distance' sponsors should continue to take responsibility. They should be directed to include, however, *letters* of recommendation and record by 'local' clinical supervisors and other *administrative* superiors, when making their final report. This in effect will utilize and recognize supervision and opinions of ASHA members who serve in training programs, but who have not yet been approved as sponsors. This does not relieve duly qualified sponsors of their full responsibility nor lower the standards of sponsorship.

9. The Committee has considered the advisability of exploring ways of achieving better compliance with ASHA standards by therapists and employers. It has been generally expressed that such would be wise, but hazardous. No action is now contemplated, but the matter is under advisement.

10. There is a question of how to interpret the 'electives' requirement. May 'speech arts' count as electives? Many applicants request utilization of general speech courses which could conceivably be as valuable to their clinical training as some related courses in other allowable areas. No recommendation has been made on this to date.

II. Recommendations to the Council (as revised)

1. That the Council approve the policy of arranging for member-applicants, whose training in foreign institutions does not parallel our courses of study, to certify by examination when the Certification Committee believes the submitted credentials qualify such candidates for the examination.

2. That the Council approve the following change of policy: When the Certification Committee agrees that a case is worthy of referral to the Standards Committee because of certain requirement deficiencies, the Standards Committee, in addition to its present prerogative and upon unanimous agreement, may approve the candidate for certification upon the satisfactory completion of one of the following courses of action: (a) Request the candidate to take a carefully administered comprehensive examination or an examination covering the special area in which the candidate has a deficiency, whichever is appropriate, in the opinion of the Standards Committee; (b) Permit the candidate to be certified upon the recommendation of six sponsors.

3. That the Council authorize the Standards Committee to proceed in the preparation of a directive to all sponsors describing:

a. Greater reliance upon sponsor's evaluation, judgment, and recommendation concerning professional experience, whether this experience is preregistered or not. (This is in no wise intended to retreat from the requirement to preregister all experience being used to fulfill the requirements.) There are instances when strict adherence to preregistration is impractical.

b. The obligation of sponsors to provide testimony concerning each candidate's *personal* qualifications and character and his likelihood to adhere to the code of ethics of the Association.

c. The policy allowing sponsors to serve students at 'long range,' but which requires in these cases that sponsors obtain and submit (attached to the report form) statements from clinic supervisors or other administrative superiors.

d. Other specific instructions to sponsors which the Council and Committee believes would serve to strengthen the value of this aspect of the certification program.

4. That the Council advise the chairman of the Standards Committee whether it wishes any particular disposition of the collection of institutional reports gathered by a previous Committee.

Moved by Wells and seconded by Kopp that the report of the Committee be received. Passed.

Council approved, without formality of a motion, Recommendation 1 after rewording it as stated above.

Hale orally substituted Recommendation 2 above for Recommendation 2 in his written report.

Moved by Carhart and seconded by Ainsworth that a sub-committee of the Committee on Clinical Certification be established for the preparation and administration of special examinations for special cases when recommended by the Committee on Clinical Standards in Speech. Passed.

Moved by Carhart and seconded by Henrikson that the Committee on Clinical Standards in Speech reconsider the question of how best to use recommendations and special statements in lieu of requiring special examinations for special cases. Passed.

Moved by Henrikson and seconded by Anderson that Recommendation 3 of the report be accepted. Passed.

Moved by Doerfler and seconded by Kopp that the Council instruct the Committee on Clinical Standards in Speech to destroy the collection of institutional reports obtained by a previous committee. Passed.

Hale remarked that in transition to the report of the sub-committee on Public School Speech Therapy the Committee on Clinical Standards in Speech concurred, (1) with the request to have next year's subcommittee so constituted as to have the members selected geographically in pairs, and (2) with the suggestion concerning the ASHA recommendations for Public School Therapists.

Report of the Sub-Committee, of the Committee on Clinical Standards in Speech, on Public School Speech Therapy. Jones presented the following report of her committee:

Procedures. The chairman sent letters to the members of the Committee suggesting that it concern itself with the following two major problems and asking for answers to the following questions:

1. Teacher training of public school speech correctionists:

a. What experiences are needed?

b. What level of training, undergraduate and graduate is required?

c. What types of programs and courses should public and school speech correctionists have?

d. Is it possible to define the basic background of information needed? Do public school speech correctionists need a course in *medical* anatomy? What courses in education do they need?

e. What clinical competencies should public school speech correctionists have? Should we require our school correctionists to have classroom teaching in the regular schools?

2. Certification requirements:

Can we set up model minimum certification requirements for public school speech correctionists? Requirements have been set up for correctionists. Can we consider these to meet the need of speech correctionists to function as teachers in a public school program?

Sample certification requirements of the states represented by the members were exchanged for comments and questions. Although there was a great deal of correspondence, no definite agreement was reached. It became evident that agreement on such a vital question would require face-to-face discussion and the opportunity to discuss varying opinions for a period of time before any consensus could be reached. There was disagreement on the amount of psychology required as opposed to speech improvement. The amount of professional educational courses and the specific education courses to be required were not settled. There was also question as to whether minimum requirements should include both speech and hearing. No agreement was reached by the Committee.

The following questions proposed by Dr. Lester L. Hale were sent to the Committee members:

1. Shall we communicate with State Departments of Education, calling attention to our standards and requesting that state requirements be compatible with ours?

2. Do we need to consider hours, so that some of these may be earned in public school internship programs, as well as in resident clinical programs at the training institutions?

Recommendations. There was a general concensus that the Committee was not ready to make specific final recommenda-

tions. It is thought that a Committee should be continued and that perhaps it should proceed and consider the question from the following point of view: That a speech correctionist (therapist, pathologist, clinician, teacher) is first of all a speech correctionist who has fulfilled the basic certification requirements of ASHA. Correctionists function in job situations which make different demands on them, and therefore, require additional background information and skills according to the basic orientation of the job environment. The public school presents one of these particular job environments. Educators are interested in the contribution speech correctionists can make to a total educational process. The problem in training speech correctionists to work in public schools is then to provide the orientation, information, and techniques necessary to become an integral part of this educational process. This must be done without any sacrifice to the basic speech correctionist training that is needed for a speech correctionist in any environment. With this in mind, it is recommended that:

1. A sub-committee be continued for another year to propose answers and reach compromises concerning the questions which have not been resolved this past year.

2. This committee must be one that can hold at least one meeting during the year, because the differences of opinion and points of view are such that they cannot be resolved through correspondence.

3. Members of the committee should be selected geographically in pairs so that they can either get together or use the telephone to discuss pertinent matters concerning committee problems.

4. Every effort should be made to crystallize some thinking in the area of public school speech correction. It is vital for the Association to present to interested people throughout the country positive recommendations for programs of education for speech correctionists who will function in public schools.

Moved by Doerfler and seconded by Wells that the report be received. Passed.

Recommendation 1 had received affirmative action in the report of the Committee on Committees. This sub-committee (and others) are to be appointed by the parent committees.

Moved by Kopp and seconded by Bloomer that Recommendation 2 be referred to the Budget Committee. Passed.

Report of the Committee on Clinical Standards in Hearing. Gaeth gave the following report:

The Standards Committee in Hearing has taken very little action during the past year and consequently has a brief report.

At the last convention the Committee met to consider two problems referred to it by the Certification Committee. One of these was a request to take an examination to make up a two-hour credit deficiency for certification in basic hearing. The applicant's request was for an examination to cover only the deficient credit. The Committee ruled that, if the applicant were to take an examination, it should cover the equivalent of the basic and professional courses required for basic hearing and not for a vague deficiency like two hours. This is the background of one of the recommendations below.

The Committee has been concerned with the problems of examinations for certifications in hearing for several years. It is pleased to know that an appropriate Examining Committee is now functioning. However, the Committee wonders if some of its recommendations accepted at the last convention have been put into effect. The other two recommendations relate to this matter.

The Committee on Clinical Standards in Hearing has the following recommendations:

1. Whenever an examination for certification in hearing is given for special purposes, the applicant must pay the regular examination fee and take the full examination appropriate to the level of certification involved.

2. It was the intent of the recommendations which established the Examining Committee for Certification in Hearing that the Committee administer all examinations 'as are specified or permitted for Certification in Hearing.' This is spelled out in paragraph 1(a) of last year's report. Therefore, it recommends that the word 'Advanced' be dropped from the title of the Committee and it be known as the 'Examining Committee for Certification in Hearing.'

3. In recommendation 1(c) of last year's report, approved by the Council, the period of service on the Examining Committee was specified as three years with the period of service staggered so that three new members were added each year. In the listing of the Committee in the *Journal* for March, 1956, there is no indication of the term of

TABLE 6. Recipients of Speech Correction Fund scholarship grants.

Name	*Date of Award*	*University*	*Area of Research*
Abbott, Thomas B.	1956	Florida	Mother-child relationships in stuttering
Bowie, Anthony	1955	Michigan	Speech and hearing problems of athetoids
Chaiklin, Joseph	1955	Stanford	Tape recorder as a therapeutic tool
Dawson, Warren R.	1954	Stanford	Techniques of audiometry
Falck, Frank J.	1955	Penn State	Interrelationships in group of stutterers
Goehl, Henry, Jr.	1956	Pittsburgh	Secondary mechanisms of stuttering
Hansen, Halvor	1954	Wisconsin	Stuttering behavior patterns
Jagger, Kathleen M.	1955	Iowa	(Visited U. S. training centers)
Larson, Mark H.	1954	Denver	Functional disorders of articulation
Lerea, Louis	1954	Pittsburgh	Success and failure of stutterers
MacGahan, John A.	1953	Chicago	Recovery from aphasia
Ptacek, Paul	1952	Minnesota	Dichotic word presentation
Renfrew, Catherine E.	1955	Iowa	(Visited U. S. training centers)
Sanders, Jay W., Jr.	1956	Missouri	Stage fright
Schaef, Robert A.	1953	Pittsburgh	Stuttering adaptation
Skalbeck, Oliver M.	1956	Iowa	Expectancy of stuttering
Winchester, Richard A.	1953	S. Calif.	Auditory perception

service. It is recommended that such action as necessary be taken to insure the rotational plan of membership on the Examining Committee as originally outlined.

In the discussion that followed, Doerfler, Chairman of the Committee on Examination for Advanced Certification in Hearing, commented that in his report to the Committee on Clinical Certification, the Committee was unanimous in opposing the delegation to it of what it considered a new responsibility in addition to its clearly understood function. The matter of constructing a valid and reliable examination for advanced certification in hearing is a large order, and will require extensive work if it is to be accomplished successfully. If the Committee is to be harassed by being required to construct various and sundry other examinations which another committee may feel indicated, it does not feel that it can accomplish its primary function. His Committee requested that the Committee on Clinical Certification pass this matter of who shall construct and grade 'in lieu of' type examinations, both hearing and speech, on to the Executive Council for consideration.

Moved by Matthews and seconded by Ainsworth that the constructing, administering, and grading of all 'in lieu of' type examinations be vested in a sub-committee of the Clinical Certification Committee.

Moved by Peterson and seconded by Kopp that consideration of the motion be postponed until the Council reconvened. Passed.

Meeting recessed at 6:00 p.m.

November 18, 1956, 7:30 p.m.

The same officers and members of the Council were present as at the afternoon session.

The meeting was reconvened and called to order by President Carrell.

President Carrell read a telegram from the Speech Association of America wishing the ASHA a most successful convention and year.

Pre-Convention Expenses for Members of the Council. Kopp called attention to the discriminatory action by the Council in approving pre-convention expenses (hotel and meals) for members of two committees and not extending the same consideration to members of the Council.

Moved by Kopp and seconded by West that the Association pay the expenses (hotel and meals) of members of the Council for the two pre-convention days. Passed.

Creation of the American Speech and Hearing Foundation. Last year the Council instructed the Secretary-Treasurer to obtain legal advice necessary to the establishment of a fund or foundation to which donors could make income tax deductible contributions. These instructions were

carried out with the assistance of attorney John F. Eberhardt of Foulston, Siefkin, Schoeppel, Bartlett and Powers, Wichita 2, Kansas, and attorney Ernest Wunsch, Birmingham, Michigan. Upon resolutions duly made, the recommended changes in the Articles of Incorporation (State of Kansas) and the By-laws of the Association were approved in writing by the Executive Council. (These documents are printed in full following these minutes.)

Report of the Committee on Speech Correction Fund. Johnson abstracted the following report:

The financial report (reprinted following the minutes) represents the activities of the Speech Correction Fund Committee from October 1, 1955 to September 30, 1956. The fund balance at the beginning of the period was $5,045.97 and at the end of the period it was $4,307.59. Kappa Delta Phi approved a grant of $1,500.00 to the fund and it will be received by the Committee at such time or times as the Committee awards the Kappa Delta Phi scholarships for which the grant is intended. The available balance as of September 30 was, therefore, $5,807.59.

Since October 1, 1955, the Committee has awarded six $500 scholarships as indicated in the financial section of this report. A résumé of the work done by all recipients under these awards is included (see Table 6).

Continuing publicity is necessary to give prospective donors essential information about the Fund and to direct worthy students to the Fund as a source of scholarship aid.

Miss Jayne Shover and Mr. Raymond L. Kahn have continued to work with the Committee as representatives of the National Society for Crippled Children and Adults. Mrs. Cora S. Leukhart of N.S.C.C.A. also has continued as Secretary of the Committee.

Of symbolic as well as material importance is the contribution of $135.00 submitted through Dr. Victor Garwood by 23 ASHA members in Southern California. Contributions to the Fund by members of the Association are of special significance in reflecting a dedication to the work and objectives of the profession which extends beyond that represented so substantially in their day-to-day work in the clinic, classroom, and laboratory. The Committee carries on no systematic fund-raising activities, but it does recommend and urge that members of the Association lend their support to the Speech Correction Fund by (1) giving prospective donors essential information about the Fund; (2) directing worthy students to the Fund as a source of scholarship aid; (3) remembering the Fund in their personal contributions budgets; and (4) disseminating information about the Fund to students, new members of the profession, and the general public on appropriate occasions and in a dignified and constructive spirit.

Moved by Kopp and seconded by Darley that the report of the Committee on Speech Correction Fund be approved with commendation. Passed.

Report of the Special Committee on Scholarships. Johnson presented the following report:

In consideration of a grant of $5,000.00 to the American Speech and Hearing Association by the Education and Research Foundation of the United Cerebral Palsy Associations, President Carrell, on June 20, 1956, appointed this Committee to administer the grant in accordance with its intended purposes of encouraging qualified graduate students, through scholarships, to pursue professional training in speech pathology, including orientation to and practicum in speech therapy for children and adults with neurological disabilities. Regulations (printed following this report) were formulated for the purpose of screening and processing applications for scholarships. Acting in accordance with these regulations (printed following this report) were $500.00 scholarships in October, 1956, to Mr. Aaron Favors (University of Iowa), Miss Enid Gordon (Temple University), Mr. Michael Hoshiko (Purdue University), and Miss Anne Hughes (Pennsylvania State University). In each case, a check for the full amount of the award was sent with a covering letter to the recipient, and a letter was also addressed to the president of the institution concerned explaining the scholarship award, the source of the grant, and the purposes of the sponsoring organizations.

As of November 1, 1956, $3,000.00 of the $5,000.00 grant is on hand. The Committee was encouraged by the office of UCP to apply for an extension of the grant for the coming year, and on the basis of the experience to date a request was made for $6,000.00 for 1957-58. As of this writing, a response to this application has not been received.

Regulations Governing Awards of Speech Correction
Scholarships Provided by the
United Cerebral Palsy Associations

1. Each applicant must have completed undergraduate requirements for a Bachelor's degree and be a candidate for a graduate degree in the field of speech correction in a college or university providing appropriate graduate-level training in this field.

2. Graduate training must include orientation and practicum in speech therapy for persons with neurological disabilities.

3. The Special Committee on Scholarships of the American Speech and Hearing Association will:

(a) Receive each scholarship application and review it with respect to the qualifications of the applicant, as well as the adequacy of the applicant's proposed course of training and the professional training program in which the proposed course of study will be undertaken.

(b) Recommend awarding of scholarships in October and April of each year from funds received by the American Speech and Hearing Association from the United Cerebral Palsy Associations. Scholarships will be awarded to the extent of five hundred dollars per year for each approved applicant.

(c) Receive annual reports (not later than July 1 of each year) from the recipients and their supervising sponsors relative to the use made of scholarship funds and progress achieved. The Committee consideration of applications for renewal of scholarships will be governed materially by the nature of the progress reports received from the applicants.

(d) Make a semi-annual report to the Educational Director of the United Cerebral Palsy Associations (not later than April 1 and October 1 of each year) relative to the funds received and disbursed, identity of those awarded scholarships, and other relevant matters.

4. Application is to be made by letter with the following enclosures: (a) proposed plan of graduate study, with signature of faculty member responsible for the training program in which applicant proposes to work; (b) research plans, if a thesis is to be part of the training courses; (c) official transcript of academic work completed; (d) record of professional job experience; (e) statement of age, martial status, any currently held scholarship, assistantship, or position (these are not disqualifying), and present address. Letters regarding the applicant from three instructors, former employers, or other responsible persons are also required.

5. Applications are to be submitted to the Committee by September 1 or by March 1 for consideration in October and April, respectively.

6. Send applications to Dr. Wendell Johnson, Chairman, ASHA Special Committee on Scholarships, E-13 East Hall, University of Iowa, Iowa City, Iowa.

Moved by Kopp and seconded by Carhart that the report of the Special Committee on Scholarships to be approved with commendation. Passed.

Report of Sub-Committee on Liaison with Federal Agencies. Johnson reported that the particular problem with which the committee concerned itself during the past year was that of Civil Service designations and job descriptions for speech pathologists in government service programs. A special aspect of this centers around the fact that in some job specifications currently used in filling positions in the Veterans Administration, the words 'Speech Pathologist' are placed in parentheses after the words 'Clinical Psychologist.'

The Committee was informed by Verne K. Harvey, M.D., Medical Director, United States Civil Service Commission on August 16, 1956, that so far as he knows, the bulletin, 'Audiology and Speech Correction Series,' GS-665-0, of the United States Civil Service Commission, contains all the information that may be had concerning positions as speech correctionists or speech pathologists in government service. An examination of the bulletin shows that all positions for speech correctionists or speech pathologists under the auspices of the United States Civil Service Commission classify these professional workers either as audiologists or as clinical psychologists. There appear to be no speech correctionists or speech pathologists, *per se*, in government service, so far as designations for administrative purposes are concerned.

The Committee feels that it is in the best interests of our profession and of the American Speech and Hearing Association to affect a change in this situation, such that speech pathology will be recognized in its own right in the administrative offices of the government.

The Committee recommends that appropriate study and deliberation toward this

end be made the responsibility of this Committee or of some other appropriate committee, and that the person appointed as chairman of the committee to carry out this responsibility be someone located near Washington, adequately interested in this objective, and with adequate time to devote to the work likely to be involved in making reasonable progress toward the objective. If a national office for the American Speech and Hearing Association is to be established in the near future, the Committee recommends that this problem be assigned to the Executive Director of such office. The Committee feels that this assignment can best be carried out by a responsible representative of ASHA who can devote a great deal of time to it in and around Washington.

Moved by Kopp and seconded by Ainsworth that the report of the sub-committee on Liaison with Federal agencies be approved. Passed.

Report of the Committee on the Establishment of a National Office. Steer explained the rationale of the main sections of the Committee's report. Two budgetary plans were included in the report. Plan II received little consideration by the Council and is deleted from the remainder of the report which follows:

On December 15, 1955, President Carrell announced the appointment of a Committee on the Establishment of a National Office consisting of Dr. M. D. Steer, Chairman, Dr. Darrell J. Mase, Dr. George Kopp, and Dr. Martin F. Palmer.

The instructions of the Executive Council are found on page 138 of the March 1956 issue of the *Journal of Speech and Hearing Disorders.* The direct instructions of the President, Dr. Carrell, were communicated in a letter dated January 25, 1956:

> It was quite clear that the Council fully accepted the idea of establishing a National Office and wished the committee to go as far as it could in making preparations that could be 'finalized.' You were asked to explore specifically all avenues of financing that occurred to you and to make a specific inquiry as to possible housing. I am sure it was implied that the committee draw up the job description.

After a considerable amount of correspondence with the various members of the Committee, the following assignments of function were made: (1) Possibilities of subsidization—Dr. Mase; (2) Experiences of other organizations—Dr. Palmer; (3) Budget estimates—Dr. Kopp; (4) General coordination—Dr. Steer.

By July 1, each Committee member had submitted a preliminary summary report which was circulated to the Committee members and to the President. As the result of the excellent cooperation of Dr. Kopp and his staff, a revised budget estimate for the years 1957-61, inclusive, was received on September 28. A final meeting of the Committee was held in Chicago on October 29 and 30. Members present were Steer, Mase, and Palmer. Dr. Kopp was unable to attend. The Chairman also invited Dr. Carhart as incoming President and Dr. Simon as Chairman of the Planning Committee to attend the Committee sessions. Dr. Carhart was unable to attend; Dr. Simon participated in the deliberations.

Experience of other Organizations. Following the instructions of the Council, the Committee investigated the experience of other organizations with paid National Offices. These were as follows: the American Occupational Therapy Association; the American Physical Therapy Association; the International Council for Exceptional Children; the American Association of University Professors; the American Psychological Association; the Mathematical Association of America; and the Speech Association of America. The replies may be summarized as follows:

1. All agreed that a National Office with a paid Executive Secretary should be established.
2. In the experience of all the organizations, large increases in membership occurred after the establishment of such an office.
3. The establishment of a National Office resulted in many increased services to the members.
4. Of those replying to a question concerning location, all agreed that Washington, D. C., was the best location.
5. Inherent in the growth of these organizations were many financial problems which had been satisfactorily solved by the increased dues from a larger organization, and other revenues related to the prestige of a National Office.

TABLE 7. Financial status of a proposed plan for the establishment of a National Office.

Year	*Budget Deficit*	*Grant from Foundation*	*Increase in Membership Dues*	*Surplus*
1957	$19,381.00	$20,000.00	$00,000.00	$ 619.00
1958	15,716.00	15,000.00	00,000.00	-716.00
1959	16,371.00	10,000.00	15,200.00	8,829.00
1960	15,081.00	5,000.00	16,000.00	5,919.00
1961	15,176.00	00,000.00	16,800.00	1,624.00

Proposed Budgetary Plan for the Establishment of a National Office. As reported above, the Committee requested from Dr. Kopp final estimated budgets for the establishment of a National Office covering the years January 1, 1957 through December 31, 1961. These budgets were used as the basis of the Committee's deliberations. These budgets showed the following deficits: $19,381.00 in 1957; $15,716.00 in 1958; $16,371.00 in 1959; $15,081.00 in 1960; and $15,176.00 in 1961.

These comprehensive budgetary reports reflect the deliberate consideration and years of experience of our Secretary-Treasurer. The Committee now recommends that a National Office be established in 1957. This can be accomplished by means of the plan (Plan 1) suggested below:

1. That Foundation support be sought to the extent of $50,000.00 during the years 1957-60 inclusive, to be made available as follows: $20,000.00 in 1957; $15,000.00 in 1958; $10,000.00 in 1959; $5,000.00 in 1960.
   The Committee's preliminary exploration on this matter indicates that such a request will receive serious consideration from one or more private foundations.
2. That the dues of members be increased to $12.00 per year commencing January 1, 1959, but that the dues of Associates not be changed in order to facilitate the enrollment of student and similar memberships.
   A. That in order to make these increased dues available for the increased costs incurred by the establishment of a National Office, Article XII, Section 4, Line 1 of the By-Laws be amended to provide that not less than 33 1/3% of the membership dues be allocated to publications, beginning on January 1, 1959. (This would maintain the present allocation of $4.00 per member to the publication funds.)

The following observations of the Committee regarding this plan (see Table 7) seem pertinent at this time:

1. The surpluses of 1959, 1960, and 1961 were introduced to cover any possible temporary decreases in membership resulting from increases in dues.
2. The present surplus in the treasury of the Association of approximately $30,000.00 has not been tapped for these estimates, and exists as a further insurance against any possible risk not now foreseen.
3. It should be noted that the total operations of the Association are included in this plan, as indicated in the budgets presented by Dr. Kopp.
4. The Committee recommends on the basis of this plan that the Executive Council take positive action in November 1956 on the establishment of a National Office. The date of operation of the office is dependent on the grant from a foundation, the selection of a proper person, and the availability of office space.

General Comments of the Committee Concerning Budgetary Plans. It is the general feeling of the Committee that the estimated budgets submitted by Dr. Kopp are the best that could be prepared. However, the estimates of both income and expenditure appear to be guarded and cautious. Experience of other organizations seems to indicate:

1. The travel items, the costs of additional staff, additional services to members, etc., may all have been planned at too low an expenditure rate.
2. However, the income estimates may be too low for the following reasons.
   A. The growth of membership was calculated from the extrapolated

estimates for January 1, 1957, but with the addition of only 200 Members and 100 Associates yearly thereafter. This does not take into account the effect a National Office may have upon the growth of membership as reported by all of the other Associations investigated. In their experience, the establishment of a National Office coincided with a tremendous expansion of Membership. The Association may well expect 1000 more Members than are shown in the estimated budgets.

B. With such growth, our Convention attendance may well increase to 2000 instead of the 1000 predicted.

C. No attention has been paid to the possibility that Federal or other funds may well be available for additional functions of the National Office, as shown in the experience of other organizations.

D. In other organizations, the establishment of a National Office has also meant an increase in subscriptions and publication sales proportionately beyond the increase in Membership.

Analysis of the Position of Executive Secretary. The Committee discussed the problems of the duties of an Executive Secretary with many Members and Officers of the Association. The Committee is of the opinion that the selection of the proper person, with the appropriate training and experience, will mean that the Executive Secretary, in close consultation with the various Officers and the Executive Council, will want to develop the specific tasks and duties of his office. So far as we have been able to judge, these duties will encompass the following:

1. Facilitation of the work of the Officers and Committees of the Association by handling the mechanical and clerical details of policy implementation in a central office.
2. Facilitation of liaison of the Officers, Committees, and Members of the Association with Federal and State Agencies, private fund raising agencies, foundations, professional organizations, etc.
3. Assistance in development of programs of service for the Membership.
4. Aid in developing and maintaining programs of recruitment of new members.

In short, the Committee visualizes this position as one in which the Executive Secretary assists the Officers and Committees in the carrying out of their tasks and duties, and, in addition, will make recommendations for policy and procedures to the appropriate Officers and the Council.

To clarify the relationship, finally, the Executive Council will act as the employing and discharging body for this Officer, who would be responsible to the Executive Council through the President of the Association.

Qualifications of the Executive Secretary. The Committee recommends that the Executive Secretary be approximately 35 years of age or older, preferably male with a doctoral degree. He must be a person of respected professional competence who is able to maintain effective liaison, not only with the membership of ASHA, but with the members of the related disciplines. He should hold one of the Advanced Certificates, or Fellowship in the Association.

The Committee stresses the importance of the individual's personality, public relations ability, and organizational and administrative ability. The following also might be considered desirable, but could be acquired by the right individual: knowledge of other fields; familiarity with professional foundations; knowledge of and familiarity with federal and state agencies, etc.

Revision of the By-Laws. The establishment of a National Office and the employment of an Executive Secretary will necessitate some revisions of the existing By-laws. The duties and functions of the Executive Secretary and the various Officers and Committees will be modified by the establishment of the National Office. In order to implement the proposed plan it will be necessary to change the allocation of membership dues. Article XII, Section 4, Line 1 will have to be revised so that not less than *33 1/3%* of the Membership dues will be allocated to the publications budget.

In view of these observations, your Committee recommends that a committee be appointed to examine the By-Laws and recommend to the Executive Council the

changes made necessary by the establishment of a National Office and a paid Executive Secretary.

National Headquarters Office. After careful deliberation, the Committee recommends Washington, D. C., as the first choice, Chicago second, and New York third, for the site of the National Office.

1. The advantages of designating Washington are as follows:

The location of the various Federal Agencies who are turning to our field with funds not only for clinical, but also for training and research programs seems to indicate that the Executive Secretary should be placed where many contacts can be made casually as well as directly. The distance from New York also makes contacts with various Foundations rather easy. Further, a number of Associations with whom we relate have national offices in Washington. Among these are: I.C.E.C., N.E.A., A.P.A., N.R.A., A.H.A., etc.

The principal disadvantage of Washington is that it is not centrally located.

2. The advantages of designating Chicago are as follows:

Chicago is the Headquarters for the National Society for Crippled Children and Adults, the American Medical Association, and various medical specialties and academies. It is also centrally located.

The principal disadvantages of Chicago are its distance from governmental research and other agencies, private foundations headquarters and other related association headquarters.

3. The advantages of designating New York are as follows:

It is the location of the offices of many of the larger foundations. It is the National Headquarters of AOTA, APTA, and UCPA. Its proximity to Washington, and the fact that many national conventions are held there, make New York a desirable location.

The principal disadvantage of New York is its geographic location.

The Committee also deliberated the sharing of existing facilities in Washington with various national organizations that have been suggested. The principal advantage to be obtained from this arrangement, which in some instances would require a subsidiary affiliation, would be a reduction in many costs and a gain in some services. The Committee believes we should not endanger our professional identity by such an arrangement. It seems necessary for us to stand independently in order to be related properly to Education, Psychology, Medicine, Acoustics, and other disciplines important to our membership.

Moved by Kopp and seconded by Doerfler that the report of the Committee on Establishment of a National Office be received. Passed.

Moved by West and seconded by Ainsworth that Plan 1 as contained in the report of the Committee be approved.

Moved by Doerfler and seconded by Matthews to amend the motion to provide that the proposed dues increase start with the inception of the office of the Executive Secretary. Lost.

Moved by Carhart and seconded by West to amend the motion by substituting the words, the first, second, third, fourth and fifth year for 1957, 1958, 1959, 1960, and 1961.

Moved by Ainsworth and seconded by Carhart to amend the amendment so that the first year be 1958. Passed.

The amendment as amended was passed.

The main motion as amended was passed.

Moved by Carhart and seconded by Ainsworth that an *ad hoc* committee of three members of the Council be appointed to consider candidates for the position of Executive Secretary and make recommendations to the Council. Passed.

Moved by Kopp and seconded by Doerfler that the location of the National Office be in Washington, D. C. Passed.

Steer recommended that Darrel Mase be appointed Chairman of the Committee on National Office.

Moved by Carhart and seconded by Peterson that the existing committee on the Establishment of a National Office be reappointed for next year with Darrel Mase as Chairman. Passed.

Report of the Committee on Clinical Standards in Hearing (continued). President Carrell advised the Council that a compromise agreement had been reached between the Chairmen of the Committee on Clinical Standards in Hearing and the Committee on Examination for Advanced Certification in Hearing. The word 'Advanced' is to be dropped from the title of the one committee and it is to be known as the 'Examining Committee for Certification in Hearing.'

Moved by Kopp and seconded by Doer-

fler that the report of the Committee on Clinical Standards in Hearing be approved. Passed.

Moved by Kopp and seconded by Doerfler that the report of the Committee on Certification through Training Centers be accepted. Passed.

Report of the Committee on Organizational Structure. John Irwin presented copies of the report of the 1955 Committee on Organizational Structure as background for the 1956 Committee report which follows:

Part 1. General Statement

The Committee on Organizational Structure of the ASHA believes that certain difficulties in the present organization of the Association are adversely affecting the continued growth and development of the Association. We, therefore, recommend the acceptance *in principle* of the plan of reorganization developed by the Committee on Association Planning as published in the March, 1955 issue of the *Journal of Speech and Hearing Disorders.*

Among the major difficulties with our present organizational structure that lead us to endorse in principle the new proposal are the following:

1. *The present organization has shown definite tendencies toward inbreeding in its governing personnel.* For example, in a survey of ASHA structure over a twelve year period, 1945-56 inclusive, it was found that: (1) Only 41 different people held elective office; (2) In 10 of these 12 years (1947 and 1948 information was not available), only 184 different people served on committees; (3) 41 of the 184 committee people were the same 41 people who held elective office; (4) There were 7 people who served 20 or more committee years in this 10 year period.

The proposed plan is specifically aimed at bringing new personalities into the leadership of the organization.

2. *The present organization is narrowly based.* The proposed plan makes specific provision for the recognition of the need of all geographical and interest groups.

3. *The present organization is isolated from the state organizations.* The proposed plan will encourage state organizations to feel that they are an integral part of the national organization.

4. *The present organization has failed to include all qualified professional personnel in the ASHA.* The proposed plan will stimulate prospective members in all activities to join the ASHA, and will encourage holdouts to join, whether now in state or specialized interest groups.

5. *The present organization needs a more effective system for the initiation and review of legislation.* The proposed plan provides for the initiation and review of legislation by two bodies: one small (the Council) for efficiency and one large (the House of Delegates) for democratic representation.

6. The present organization has operated of necessity at times with a degree of expediency, particularly in the handling of the business meeting. In the proposed plan, legally-constituted representatives or delegates would assume the essential functions of the present business meeting.

Part 2. Modifications and Additions

Despite our endorsement of the general principles of the proposed reorganization, we believe that certain modifications and additions should be made in the plan as published. Here are the more important of the modifications that we should like to see made. These modifications should be studied in conjunction with the original plan, which is not reproduced here, but appears in the March, 1955 issue of the *Journal of Speech and Hearing Disorders.*

I. Delegates. Any delegate, irrespective of the number of groups that he may have been elected to represent, shall have only one vote in the House of Delegates.

II. Interest Groups.

A. It shall not be considered wise or desirable to attempt to limit at this time either the number or the distribution of the interest groups.[1] Yet, we feel that the following criteria should be recognized with respect to the organization of the interest groups:

1. No one member of the ASHA shall be counted as belonging to more than two interest groups so far as representation is concerned (that is, as part of the basic 25).
2. No interest group shall be formed except after acceptable evidence has been advanced of sustained professional activity in the field represented.

[1]As of October, 1956, it may be interesting to note that the SAA has 18 organized interest groups.

For example, sectional meetings at two or more national conventions of ASHA might constitute evidence of such activity.

3. There shall be no separate collection of dues by the individual interest groups.
4. Each interest group shall be supported administratively by the national organization.
5. Each interest group shall evolve its own type of elective leadership with no emphasis on uniform modes of organization.

B. We believe that interest groups may properly assume the following functions:

1. A program function with respect to the ASHA national convention shall be recognized, with each interest group having representation on the national program committee.
2. A legislative function shall be implicit, as part of the membership in the House of Delegates.
3. Each group shall have advisory relationships with the Committee on Publications.

III. Geographical Groups.

A. It shall not be considered wise or desirable to attempt to limit at this time either the number or the distribution of the geographical groups. Yet, we feel that the following criteria should be recognized with respect to the relationship of the group with the ASHA.

1. The preferred unit of geographical organization shall be the state, but the possibility of regional organizations in sparsely settled portions of the country is recognized. However, representation in the House of Delegates cannot be overlapping; that is, if a state votes as a state, it cannot also vote as part of a regional organization.
2. There shall be but one geographical unit within any one state: in the event that two or more state organizations exist within any one state, the geographical organization with the greatest number of ASHA members at the time of recognition shall be the organization represented in the House of Delegates.
3. The District of Columbia, as well as Alaska, Hawaii, and other territories, shall be regarded as states for purposes of representation.
4. Election of ASHA delegates:
   a. Eligibility to vote:
      (1) If the geographical organization is essentially a speech therapy and hearing group, all of its members (irrespective of membership in the ASHA) may vote for the ASHA delegate(s).
      (2) If the geographical organization is a mixed group (i.e., has general speech as well as speech therapy and hearing members), only the members who actively represent speech and hearing may vote for the ASHA delegate(s).
   b. Eligibility of delegates:
      Delegates elected must be members in good standing of the ASHA.
5. The geographical organization shall retain an independent status with relation to the ASHA. As examples, geographical organizations shall continue to elect their own officers, write their own constitution and by-laws, fix and collect their own dues, make and execute their own policies, and control their own membership, subject only to acceptance of the Code of Ethics of the ASHA.

B. The primary function of the geographical groups shall be legislative.

IV. House of Delegates.

A. The House of elegates shall meet at least once a year at the time and place of the ASHA national convention.

B. The President of the ASHA shall serve each year as temporary chairman for the election of the officers of the House of Delegates, which shall be the first order of business.

C. The following officers shall be elected each year from the membership of the House of Delegates: (1) A permanent chairman, who shall appoint a parliamentarian; (2) A secretary.

D. A nominating committee of seven to select the officers-elect of the Association shall be appointed by the permanent chairman. This committee shall be composed of at least two members from special interest groups and at least two members from geographical groups, but with no more than one member from any single geographical or interest group. Any member who is in good standing in the ASHA shall be eligible for nomination as an officer.

E. No member of the Council may hold concurrent office in the House of Delegates.

F. Legislation that is to be introduced in the House of Delegates must be written out before the time of introduction, presented to the secretary of the House, and be signed by ten members of the House. Such signatures shall constitute evidence of the legitimacy of the proposed legislation, or of the desirability of considering it, but not necessarily endorsement.

V. Officers of the Association.

A. The Vice-President shall serve as chairman of the Program Committee for the national convention. This Committee shall consist of one representative designated by each of the interest groups.

B. Certain functions shall be the exclusive province of the Executive Council: (1) Time and place of meeting of the national convention; (2) Liaison; (3) Honors.

C. Legislation pertaining to the budget shall be formulated by the Council and ratified by the House of Delegates.

Part 3. Recommendations

The Committee on Organizational Structure recommends:

1. That the Council receive this report;

2. That the Council approve the principle of an elected House of Delegates;

3. That it approve the principle of geographic representation to the House of Delegates, with the understanding that disapproval of geographic representation in no wise constitutes disapproval of an elected House of Delegates;

4. That it approve the recognition of Professional Interest Groups and their representation in the House of Delegates, with the understanding that disapproval of the recognition of Interest groups in no wise constitutes disapproval of an elected House of Delegates;

5. That it establish a committee to prepare a revision of the By-Laws based upon the recommendations approved above and that such revision be submitted to the Council at the 1957 meeting. The relevant reports of the Planning Committee and of the Committee on Organizational Structure shall be considered advisory in the preparation of the By-Laws revision.

6. That the Council consider the advisability of instructing the committee on constitutional revision to prepare an explanatory statement on the proposed revisions suitable for publication in the September, 1957 issue of the *Journal of Speech and Hearing Disorders.*

Moved by Wells and seconded by Doerfler that the report be received. Passed.

Moved by Wells and seconded by Ainsworth that the Council approve the principle of a Legislative House of Delegates. Passed.

Moved by Peterson and seconded by Anderson that Recommendation 3 of the report be approved. Passed.

Moved by Peterson and seconded by Ainsworth that Recommendation 4 of the report be approved. Passed.

Moved by Peterson and seconded by Doerfler that Recommendation 5 of the report be approved. Passed.

Moved by Peterson and seconded by Carhart that Recommendation 6 be disapproved. Passed.

During the long discussion of this report, the Council instructed the Committee by passing several motions:

Moved by West and seconded by Ainsworth that the authority and responsibility of the House of Delegates be that which is now assigned by our organic law to the Membership. Passed.

Moved by Bloomer and seconded by Ainsworth that an exception be added that the election of officers shall rest in the Membership as a whole. Passed.

Upon returning to 'on the record,' President Carrell stated, 'we now have a motion in our instructions to the Committee to make an exception of the election of officers and members of the Executive Council.' Passed.

Moved by Bloomer and seconded by Ainsworth that no one can participate as a delegate unless he is a Member of the Association. Passed.

American Speech and Hearing Foundation (continued). Kopp raised several questions of procedure in connection with the Foundation.

Moved by Matthews and seconded by Carhart that the Secretary-Treasurer be authorized to exercise his own choice with respect to keeping the books of the Foundation. Passed.

Moved by Matthews and seconded by Carhart that legal fees and other incidental expenses in establishing the Foundation be charged to the General Account of the Association. Passed.

Moved by Anderson and seconded by Doerfler that, for the present, the Foundation's activities should be restricted to scholarships. Passed.

Adjourned 2:30 a.m.

November 20, 1956, 8:00 p.m.

The following officers and members of the Council were present: President James A. Carrell, presiding; Stanley Ainsworth, Jack Matthews, George A. Kopp, Robert West, Raymond Carhart, Virgil A. Anderson, Harlan Bloomer, Frederic L. Darley, Leo G. Doerfler, Jon Eisenson, Ernest Henrikson, John V. Irwin, Ruth Beckey Irwin, Gordon E. Peterson, and Charlotte G. Wells.

President Carrell called the meeting to order and recognized the Executive Vice-President, Ainsworth.

Report of the Committee on Time and Place (continued). Ainsworth reported that the Hotel Statler in Cleveland, Ohio, had been reserved for the 1959 Annual Convention on November 9, 10, and 11.

Report of the Ad-Hoc Committee on International Association of Laryngectomees. Ainsworth informed the Council of the joint meeting held with representatives of the International Association of Laryngectomees and the American Cancer Society. A sub-committee of the Committee on Liaison will be appointed to help develop standards for teachers of laryngectomees and to explore the possibilities of certifying teachers of that special therapy.

Requests from the Committee on Establishment of a National Office. Kopp presented the Committee's request for (1) a contingency fund of $1,000.00, (2) Council authorization for the central office to petition the Office of Vocational Rehabilitation for a grant to conduct a survey of the membership to determine what they are, what they are doing and their needs for a National Office, and (3) Council instruction concerning responsibilities of the Committee, other than financial, in establishing a National Office.

Moved by Kopp and seconded by Darley that a contingency fund of $1,000.00 be approved for the Committee on Establishment of a National Office. Passed.

Moved by Henrikson and seconded by Irwin that the central office be authorized to petition the OVR for a grant to conduct a survey of the membership to obtain information relating to the establishment of a National Office. Passed.

President Carrell, with consent of the Council, summarized the duties, other than financial, of the Committee on the Establishment of a National Office as being all the necessary activities in planning and investigating, preliminary to signing of contracts in establishing a National Office. Cognizance should be taken of the fact that there is a Personnel Committee.

Report of the Committee on Group Insurance. Morris presented the following report:

It has been very gratifying to work for the Association on this matter of group insurance. The Association has in the magnitude of its membership a very valuable commodity in the insurance field. The very size of the Association will mean economy for the members if a practical proposal, acceptable to the membership, can be achieved. A number of plans have been proposed.

We have a proposal from the State Mutual of Worcester, Massachusetts, concerning both an income protection plan and a group insurance plan, which relates to the members. From the Minnesota Mutual, Nashville office, we have a group insurance plan proposal. From the Joseph Dennis Company in Chicago, the company which first presented material to the council, we have proposals for both an income protection plan and a group insurance plan. From the Washington National of Evanston, Illinois, we have a group insurance plan.

These proposals are all similar, but have various features depending upon the particular company and its practices. One thing seems clear to the Committee: There is considerable advantage to waiting for the activation of the national office before an insurance plan is placed in operation. For example, Minnesota Mutual stipulates that there must be a full-time executive secretary before the plan they propose, with the fees and the benefits which they suggest, can go into effect. Since the Council has voted to set up such an office by 1958, it is our recommendation that the Association wait until then to set up an insurance plan. We suggest that the Association poll the membership to get an assessment of the desires and needs of the members, and have a program ready to go into effect when the national office is actually activated.

After considering the various plans, we feel that it is desirable to develop a plan in terms of Association needs and desires.

This plan could then be presented to the various insurance companies for bidding.

We are proposing as a committee that the Council find through a successor of this committee, or by some other means, a way of determining the insurance needs of the membership. A program of insurance should be written to meet those needs, and then the various companies can be contacted to find how the best provision can be made. It is believed that if a suitable proposal is presented to the insurance companies, they will find ways to provide it.

Insurance company representatives will attempt to sell their most familiar programs which may or may not fit our membership. It seems to me that we need someone in the insurance field to examine the membership and to recommend coverages which might be of special interest to our members. A pattern of insurance could then be determined which would be presented to the companies.

That, in essence, is our recommendation.

Moved by Kopp and seconded by Peterson that the report of the Group Insurance Committee be accepted with commendation. Passed.

Report of the Committee on Ethical Practice. Darley's report was divided into two sections: (1) general activities, procedures and policies, and (2) recommendations, including certain charges of unethical practice against an Associate of the Association. President Carrell suggested that the Council consider the personal charges first.

After a deliberate and careful consideration of the recommendation of the Committee on Ethical Practice, the Council suspended an Associate of the Association for violation of the Code of Ethics.

Attention was directed to the second part of the report which included the following topics: (1) reorganization of Committee files; (2) correspondence procedures providing that all members share in the work of the Committee; (3) handling of communications; (4) important issues that the Committee has processed, including clarification of the relationship between the Committee on Clinical Certification and the Committee on Ethical Practice; procedure for conducting an investigation of alleged violation of the Code of Ethics; handling of matters relative to non-members of ASHA, including a proposal of an educational program and inter-committee function in dealing with the problem; definition of reasonable and exorbitant fees, to be determined by a survey of persons doing private practice; public discussions of issues through the *Journal of Speech and Hearing Disorders;* problem of payment of fees to certification sponsors, including a recommendation for additions to the Code of Ethics; and Liaison with the Membership Committee, including a recommendation for revision of the By-Laws to provide that the Chairman of the Committee on Ethical Practice be an ex-officio member of the Committee on Membership.

Moved by Matthews and seconded by Henrikson that the report be received. Passed.

Moved by Anderson and seconded by Peterson that it shall be considered unethical to accept a fee, gift, or other form of gratuity from an applicant in connection with serving as a sponsor of the professional experience of applicants for clinical certification by the American Speech and Hearing Association. Passed. This is a modification of the addition to the Code of Ethics recommended by the committee.

Moved by Wells and seconded by Kopp that Article VIII, Section 7, of the By-Laws of ASHA be amended so as to make the Chairman of the Committee on Ethical Practice an ex-officio member of the Committee on Membership. Passed.

Moved by Henrikson and seconded by Kopp that the report of the Committee on Ethical Practice, as amended, be approved. Passed.

Council Approval of Applications for Clinical Certification. Ruth B. Irwin asked for Council instruction concerning applicants for Clinical Certification whose qualifications are questioned by one or more members of the Council. Practice of the committee required unanimous approval by the Council. No record could be found of Council action concerning the problem.

Moved by Wells and seconded by Carhart that when the name of an applicant for certification is presented to the Council by the Committee on Clinical Certification and receives less than unanimous approval from the Council, that application shall be referred to the Council for consideration, at which time a majority vote of the Council shall be needed for approval of the certification as requested. Passed.

Report of the Committee on Revision of the By-Laws. Chairman of the Committee, Paden, submitted a written report to members of the Council before the convention.

The Council considered the report without the Committee chairman. The report included the following recommendations:

1. Revise Article VII, Section 2, to read as follows:

Two Councilors-at-Large and the necessary Officers-Elect and Committee Chairmen shall be elected annually. Nominees shall be presented at the annual business meeting by the Executive Council upon recommendation of the Committee on Nominations; further nominations may be made from the floor. Election shall be by mail ballot of the entire Membership. The requirement for election shall be a plurality of the votes cast by Members within 14 days of the date of mailing of the ballots.

2. Revise Article XIII to read as follows:

Amendments to these By-Laws may be initiated by the Executive Council or in a written proposal signed by any 10 Members. Proposed amendments must be passed by a majority vote of the Executive Council, and presented for discussion at the annual business meeting. Vote shall be by mail ballot of the entire Membership. Two-thirds vote of those Members voting within 21 days from the mailing of the ballots will be necessary for adoption.

(These two proposed amendents are, with minor changes, the proposals of the group headed by Dr. D. C. Spriestersbach and first presented to the Executive Council at the 1955 annual meeting. At that time, certain needs for clarification in wording were noted, and at Dr. Spriestersbach's request, the Committee has made these revisions.)

3. Article VII, Section 1.

Add, at the end, the following sentence: The offices of President-Elect and Vice-President may not be held during the same term by the same individual.

The heavy pressure of duties involved in the office of Vice-President make it improbable that the same individual could at the same time properly fulfill the responsibilities of President-Elect.

4. Article V, Section 3.

Change the first sentence to read: All Officers and elected Committee Chairmen shall be elected one year prior to the assumption of their duties.

5. Article VIII, Sections 9, 10, and 13.

Insert a new sentence immediately following the first sentence, as follows: A Chairman-Elect shall be appointed one year before the expiration of the current Chairman's term.

(These two revisions are proposed in order that there may be assurance of continuity in the functioning of the Standing Committees, by electing or appointing, as the case may be, the next Chairman one year before he assumes responsibility for the Committee.)

6. Article IX.

Change the title of this article to: Professional Standards; change the title of Section 1 to: Clinical Certification.

(It has been pointed out that the title of this article was somewhat misleading in terms of the content of the two sections.)

7. Article IX, Section 1.

Change the last sentence to read: These certificates will be valid as long as . . . .

(It appears that some Members expected to receive a new certificate each year. The new wording is consistent with the practice of the Association in this matter.)

Revisions number 1, 2, and 3 had been approved, conditionally, by the Council by mail ballot.

Moved by Kopp and seconded by John Irwin that the report of the Committee on Revision of the By-Laws be received. Passed.

President Carrell called attention to the limited restriction provided for in Revision 3, Article VII, Section 1 of the Committee's report. The President expressed his conviction that the revision should specify 'any two elective offices.'

Moved by Kopp and seconded by Anderson that Council action by mail ballot last summer be rescinded in reference to amendment designated No. 3 in the report of the Committee on Revision of the By-Laws pertaining to Article 7, Section 1; and that this section be referred to the Committee on Revision of the By-Laws for revision. Passed.

Moved by Matthews and seconded by Peterson that proposed revisions 1 and 2 of the report of the Committee on Revision of the By-Laws, as amended, be submitted to the membership the following day. Passed. Proposed Revision 1 of the report remained unchanged; proposed revision 2 was amended to read as follows:

'Amendments to these By-Laws may be initiated by the Executive Council or in a written proposal signed by any 10 Members. Proposed amendments, if passed by a

majority vote of the Executive Council, shall be presented for discussion at the annual business meeting. Vote shall be by mail ballot of the entire Membership. Two-thirds vote of those Members voting within 21 days from the mailing of the ballots will be necessary for adoption.'

Moved by Anderson and seconded by Kopp that proposed revision No. 4 be referred to the By-Laws Committee for revision.

Moved by Doerfler and seconded by Kopp to amend the motion by adding the words 'and proposed revision No. 5' after the phrase, 'Revision No. 4.' Passed.

The main motion as amended was passed.

Moved by Carhart and seconded by Darley that proposed Revision No. 6 of the report be approved. Passed.

Moved by Henrikson and seconded by Peterson that proposed Revision No. 7 of the report be approved. Passed.

Report of the Committee on Terminology. President Carrell distributed copies of brief report of the Committee which had been given to him during the convention by Herman, the *pro tempore* chairman.

Moved by Carhart and seconded by Ruth Irwin that the report be accepted. Passed.

Report of the Committee on Insignia. Montgomery had submitted a written report of his Committee. Moved by Kopp and seconded by Peterson that the report be received. Passed.

Report of the Committee on Honors (continued). In consideration of a portion of the report of the Committee, as presented by President-Elect Carhart, the following resolutions were approved by the Council:

Resolved: That the American Speech and Hearing Association express its appreciation to Dr. Leo G. Doerfler for three years of contributions to the welfare of the Association and for his devoted attention to his responsibilities as a member of the Council.

Resolved: That the American Speech and Hearing Association extend thanks to Dr. Jon Eisenson for his three years of conscientious service to the Association as a member of the Council.

Resolved: That the American Speech and Hearing Association record its clear debt to Dr. James Carrell, President, for the positive and productive leadership given to the Association during his term in office.

Resolved: That the American Speech and Hearing Association again recognize with appreciation the conscientious and diligent service and the wisdom of the labors performed in behalf of the Association by the Secretary-Treasurer, Dr. George A. Kopp.

Resolved: That the American Speech and Hearing Association express its appreciation to the retiring Vice-President, Dr. Jack Matthews, for the impressive task he has accomplished in preparing a distinguished professional program for the 1956 annual convention.

Resolved: That the American Speech and Hearing Association record its sincere gratitude for the efficient handling and devoted efforts of Mr. William Waldrop and members of the Committee on Local Arrangements.

Report of the Committee on Certification through Training Centers (continued). President Carrell called attention to the implications of this report, especially the recommendation that the Committee be suspended.

Moved by West and seconded by Ruth B. Irwin that the recommendation in the report of the Committee on Certification through Training Centers to suspend the Committee be accepted, and that responsibilities of this Committee be referred to the two Standard Committees of the Association. Passed.

Request from the London College of Speech Therapists. Kopp reviewed a request from the London College of Speech Therapists that the ASHA consider a joint reprinting of 'Aphasia' by Weisenburg and McBride.

Moved by West and seconded by Bloomer that the matter be referred to the Committee on Publications. Passed.

Committee on Recruitment. Moved by Ainsworth and seconded by Anderson that the President appoint a special committee to study ways for recruiting new students into the field of speech and hearing. Passed.

Special Council Meeting. Moved by John Irwin and seconded by Doerfler that the President give consideration to calling a special meeting of the Council, this meeting to take place before the next annual convention. Passed.

Adjourned 1:30 a.m.

Business Meetings

November 19, 1956, 8:00 p.m.

Vice-President Matthews called the meeting to order, welcomed the delegates to the Convention, expressed his appreciation for the cooperation he had received in arranging the program, and introduced President James A. Carrell, who presented his presidential address. (An article based on this address appears in this issue of the *Journal.*)

President Carrell assumed the chair, commented on the large attendance and the quality of the program that had been arranged by Dr. Matthews and his Committee, and stated that the agenda of the meeting included reporting of business completed by the Council during its pre-convention meetings and the presentation to the Membership of a slate of officers and Council members.

Minutes of the 1955 Convention. President Carrell stated that the minutes of the 1955 convention were published in the March, 1956 issue of the *Journal of Speech and Hearing Disorders,* and if there were no corrections they would stand approved as printed.

Review of Reports of Officers and Committee Chairmen. President Carrell abstracted the reports of the officers and committee chairmen who had completed their reports to the Council. Special attention was called to the Establishment of a National Office, proposed changes in organizational structure, approval for the publication of two journals and the establishment of the American Speech and Hearing Foundation.

Election of Officers and Councilors. In consideration of the report of the Committee on Nominations, the Council presented the following slate of nominees to the Membership:

President-Elect: Jon Eisenson, Grant Fairbanks
Vice-President-Elect: Leo Doerfler, Duane Spriestersbach
Councilor (Hearing): William Hardy, Hayes A. Newby
Councilor (Speech): Sylvia Onesti Richardson, Kenneth S. Wood

President Carrell explained the method of balloting and appointed the tellers.

Balloting proceeded for each of the offices after a call for nominations from the floor. The following persons were elected:

President-Elect: Jon Eisenson
Vice-President-Elect: Leo Doerfler
Councilor (Hearing): Hayes A. Newby
Councilor (Speech): Sylvia Onesti Richardson

Adjourned at 10:40 p.m.

November 21, 1956, 2:00 p.m.

President Carrell called the meeting to order, remarked that there was a relatively small but faithful group present, mentioned that the official registration at the convention was 1857, called attention to the afternoon sessions starting at 3:25, and stated the agenda for the afternoon as consisting of the completion of his report of Council actions, the balloting on the revision of By-Laws, the Report of the Committee on Committees, and the Report of the Committee on Honors.

Completion of President's Report to the Membership. President Carrell summarized the report of the Committee on Group Insurance, mentioned the important work of the Committee on Ethical Practice which had been considered the night before, and stated that that completed his informal report to the Membership.

Moved by Hahn and seconded by Goldstein that the report be received. Passed.

Revision of the By-Laws to Provide for the Establishment of the American Speech and Hearing Foundation. President Carrell explained the purpose of the amendment, the necessity for it, and directed the Tellers to distribute the ballots. This amendment to the By-Laws was passed. (The revised Article XIII of the By-Laws as approved by the Council and Membership is printed in full following these minutes.)

Revision of present Article XIII of the By-Laws to read as follows:

Article XIV. Amendment

Amendments to these By-Laws may be initiated by the Executive Council or in a written proposal signed by any 10 members. Proposed amendments, if passed by a majority vote of the Executive Council, shall be presented for discussion at the annual business meeting. Vote shall be by mail ballot of the entire Membership. Two-thirds vote of those Members voting within 21 days from the mailing of the ballots will be necessary for adoption.

This amendment to the By-Laws was passed.

Revision of Article VII of the By-Laws to read as follows:

Section 2. Two Councilors-at-large and the necessary Officers-Elect and Committee Chairmen shall be elected annually. Nominees shall be presented at the annual business meeting by the Executive Council upon recommendation of the Committee on Nominations; further nominations may be made from the floor. Election shall be by mail ballot of the entire Membership. The requirement for election shall be a plurality of the votes cast by members within 14 days of the date of mailing of the ballots.

This amendment to the By-Laws was passed.

Report of the Committee on Committees to the Membership. President-Elect Carhart read the list of Committee Appointments which is printed following these minutes.

Resolutions. The President called upon Carhart, Chairman of the Committee on Honors, to read the Resolutions approved by the Council.

Moved by Bloomer and seconded by West that the Resolutions be approved. Passed.

Honors of the Association. Carhart continued with the report of the Committee on Honors and announced the election to Fellowship of the following Members of the Association: Moe Bergman, Ruth Millburn Clark, Geraldine Garrison, George Gens, Victor Goodhill, Arthur House, F. Lincoln D. Holmes, Kenneth O. Johnson, Mamie Jones, Charles Lightfoot, Jesse Villarreal, and John Webster.

Resolved: In recognition of her enlightened leadership in the field of public school speech correction, of her effective and diligent contribution to the life and growth of the American Speech and Hearing Association, of her scholarly attainments, the Honors of the Association are awarded to Dr. Margaret Hall Powers.

Resolved: In recognition of his many years of rich human leadership in the analysis and management of disorders in speech, not only as a teacher who devotes himself unstintingly to meeting the deepest educational responsibilities of the students, but also as a writer of textbooks which have a major effect on the professional thinking of students and colleges throughout the country, the Honors of the Association are awarded to Dr. Charles Van Riper.

President Carrell resumed the meeting upon request from the floor.

Moved by Lambert and seconded by Bloomer that the Secretary of the Association be instructed that when preparing the ballots for the election of officers and the Council, those nominees offered by the Nominations Committee be marked with an asterisk and suitable footnote. Passed.

The President said, 'This has been a very enjoyable convention. Good-bye, and we will presently move to adjourn to reconvene again in Cincinnati in 1957.'

Adjourned 3:30 p.m.

Respectfully submitted,
GEORGE A. KOPP
Secretary-Treasurer

Article XIII. American Speech and Hearing Foundation

Section 1. Creation of Foundation.

Pursuant to authority invested in this Corporation (hereinafter referred to as the 'Association') by Article Fifth, and particularly Article Fifth (2), of its Articles of Incorporation, the sum of $500.00 has, by the Association's Executive Council, in accordance with resolution duly and regularly adopted on November 18, 1956, been segregated, allocated, and set apart from the Association's surplus, and transferred to 'American Speech and Hearing Foundation' (hereinafter called the 'Foundation'), in trust and upon trust, nevertheless, exclusively for the charitable uses and purposes specified in said Article Fifth (2) of this Association's Articles of Incorporation under supervision of the Executive Council. Such fund, including all revenue and income thereof and all increment thereto, and all funds and property of whatsoever kind or nature hereafter contributed to or received by said Foundation, shall constitute a separate and special fund or foundation, and shall be devoted and used exclusively for the aforesaid charitable purposes specified in Article Fifth (2) of this Association's Articles of Incorporation.

Section 2. Power and Authority.

The Executive Council of American Speech and Hearing Association shall hold, invest, manage, and administer all property of said Foundation, including all property hereafter contributed to or obtained by said

Foundation from any source, exclusively for the charitable uses and purposes aforesaid, with full power and authority to do any and all things, whether or not herein specified, deemed by them to be necessary or advisable in order to effectuate and carry out the exclusive charitable purposes of the Foundation, and shall, by way of illustration and not in limitation of the foregoing general grant of authority, be invested with authority to receive, take, possess, hold, control, supervise, manage, administer, allot, care for, collect, contract with respect to, grant, bargain, sell, convey, transfer, assign, exchange, retain, dispose of, convert, deal with, construct, reconstruct, improve, repair, invest, reinvest, lease, let, demise, mortgage, pledge, hypothecate, incumber, release, sue for, defend against, and otherwise to manage, administer, and control the property and assets of the Foundation: to retain and to invest funds and property of the Foundation in any and every kind and type of property, regardless of whether the same is of a type in which the Trustees are or may be authorized to invest or prohibited from investing trust funds in the absence of this general authorization; to determine funds in the absence of this general authorization; to determine whether money or property coming into their possession shall be treated as principal or as income, or as partly principal and partly income, and to allocate, charge, or apportion any and all receipts and expenditures to principal or income, or partly to principal and partly to income, as the Executive Council deems advisable; to select and employ in and about the execution of their trust suitable agents and attorneys, including a trust company or companies, to whom may be delegated, with the right of revocation reserved, such powers of managing and investing the Foundation's funds as the Executive Council deems advisable, and to pay their reasonable compensation and expenses, nor shall the Executive Council be held liable for neglect, omission, or wrong doing of such agents or attorneys provided reasonable care was exercised by the Executive Council in their selection; and to execute and deliver any and all such contracts, deeds, leases, mortgages, agreements, and other documents and instruments as may be necessary or proper in order to effectuate any power expressly or impliedly invested in them by these By-Laws or otherwise.

Section 3. Reports.

The President shall present an annual report of the Foundation to the Association's Executive Council at each annual convention of the Association.

Section 4. General Purposes—Restrictions.

The Foundation has been organized and shall be operated exclusively for, and all funds and property of the Foundation shall be devoted and used in the United States of America, and its possessions, exclusively for, the purposes specified in Article Fifth (2) of the Association's Articles of Incorporation, *to-wit*, for charitable, scientific, literary, or educational purposes, or for any one or more or all of such purposes, subject to all of the restrictions, conditions, and prohibitions specified in said Article Fifth of said Articles of Incorporation. In event said Foundation shall for any reason be or become terminated, whether by dissolution or liquidation of said Foundation or of the Association, either or both, or for any other reason, then and in such event all of the property and funds of said Foundation shall be paid over, assigned, transferred, distributed, and used exclusively for one or more of the above-mentioned charitable purposes of said Foundation, nor shall the property or funds of said Foundation under any circumstance or in any event be commingled with the property or funds of the Association or revert or be returned to the Association, and separate books, records, and accounts shall by the Executive Council be kept and maintained for the Foundation, completely distinct and apart from the books, records, and accounts of the Association.

Certificate of Amendment to Articles of Incorporation

of

American Speech and Hearing Association

The undersigned, James Carrell, President, and George A. Kopp, Secretary, of AMERICAN SPEECH AND HEARING ASSOCIATION, a non-profit corporation organized and existing under and by virtue of the Laws of the State of Kansas, with registered office at 1751 Fairmount, Wichita, Kansas, hereby certify:

1. That they are duly elected, qualified, and acting president and secretary, respectively, of American Speech and Hearing Association.

2. That at a regularly and duly called and convened meeting of the governing body (denominated 'Executive Council') of said corporation, held on November 18, 1956, at which a quorum was present, a resolution was duly adopted declaring the hereinafter specified amendments to the Articles of Incorporation of said American Speech and Hearing Association advisable, and that thereafter, and prior to the date of this certificate, in excess of two-thirds of the whole number of said Executive Council (being the governing body of said corporation) assented in writing to such amendments.

3. That the amendments to said Articles of Incorporation of said American Speech and Hearing Association declared by the Executive Council to be advisable and assented to in writing by in excess of two-thirds of the whole number of said Executive Council, are as follows:

(a) That Article Fifth of the Articles of Incorporation be and it is hereby amended to read as follows:

'FIFTH: This Corporation is organized NOT for profit, and the objects and purposes to be transacted and carried on are:

(1) To stimulate among educators, physicians, and members of the general public a deeper, more intelligent interest in problems of speech and hearing correction; to raise as rapidly as possible existing standards of practice among workers in the fields of speech and hearing correction; to secure public recognition of the practices of speech and hearing correction as organized professions; to furnish to these professions responsible and authoritative leadership, and to make this leadership generally respected by its good works, i.e., by scholarly research, publicity, and administrative skill; to make membership in this Corporation a coveted recognition of merit, and, in this manner, to furnish workers in the fields of speech and hearing correction with an incentive to greater achievement; to encourage basic scientific study of the processes of individual human speech and hearing, promote investigation of speech and hearing disorders, and foster improvement of therapeutic procedures with such disorders; to stimulate exchange of information among persons thus engaged, and to disseminate such information; to publish books, pamphlets, and other publications, and to disseminate literature pertaining to the work of this Corporation; and to engage in all general business of like corporations possessing similar powers.

(2) To establish, by the use of its own funds or by means of gifts, devises, or bequests from third persons, or by either or both of such methods, and to administer and operate (directly, or through the medium of trustees designated and appointed by this Corporation, or via a subsidiary nonprofit corporation, or in any other method or by any other means), a separate foundation or fund to be known as 'American Speech and Hearing Foundation,' which foundation or fund shall be organized and operated exclusively for charitable, scientific, literary, or educational purposes, or for all or any one or more of such purposes, all funds and assets of which shall be completely segregated from and not commingled with the remaining funds and assets of this Corporation, with separate records and books of account to be kept and maintained for and by such separate fund or foundation, all of the funds and assets of said separate fund or foundation, and all of the income and revenue thereof, to be devoted exclusively to and used exclusively for the charitable purposes aforesaid within the United States of America and its possessions, with no part of the net earnings of such separate foundation or fund to inure to the benefit of any private individual, whether a member of this Corporation or an officer or member of the Executive Council hereof, or otherwise, and with no substantial part of the activities of such foundation or fund to be the carrying on of propaganda or otherwise attempting to influence legislation, nor shall this Corporation or any officer, member of its Executive Council, or any other member of this corporation, or any private individual, receive any pecuniary profit or benefit from said separate foundation or fund or from its property, assets, or operations, save and except such reasonable compensation as may be properly paid for services actually performed or materials actually furnished to or on behalf of said foundation or fund in effectuating its charitable purposes aforesaid, and excepting, also, such persons as shall qualify as beneficiaries within the scope of the aforesaid charitable purposes of said fund or foundation; the procedure for creating, managing, and operating said separate fund or foundation shall be as specified in the By-Laws of this Corporation pertaining to said separate fund or foundation, as now in effect and as hereafter from time to time amended or modified, but in no event, whether upon dissolution or partial or complete liquidation

of this Corporation or of said separate fund or foundation, or otherwise, shall all or any portion of the property, funds, or assets of said separate fund or foundation revert or be distributed to this Corporation or to any officer, member of the Executive Council, or any other member of this Corporation, or to any private individual (other than persons who qualify as beneficiaries within the scope of the aforesaid charitable purposes of said fund or foundation), but, in any such event or events, all of the property, funds, and assets of said separate fund or foundation shall be paid over, assigned, transferred, distributed, and used exclusively for one or more of the aforesaid charitable purposes of said separate fund or foundation.

(3) To acquire, own, hold, receive, sell, mortgage, pledge, assign, and otherwise deal with real and personal property of whatsoever kind or nature, and to enter into, make, and perform any and all contracts and agreements and to do any and all things necessary or expedient for its corporate objects and purposes, including but not limited to the right to donate, disburse, contribute, use, and otherwise devote all or any part of the property and assets of this Corporation for all or any of its aforesaid purposes, and to accept and receive gifts, devises, and bequests from third persons for use as aforesaid by this Corporation; provided, however, that any gift, devise, or bequest received by this Corporation for the hereinbefore mentioned separate fund or foundation denominated 'American Speech and Hearing Foundation,' and any gift, devise, or bequest received directly by said separate fund or foundation, and any funds or property of this Corporation donated or allocated by it to said separate fund or foundation, shall be used and devoted exclusively to the hereinbefore mentioned charitable purposes of said separate fund or foundation.'

(b) That Article Sixth of the Articles of Incorporation be and it is hereby amended to read as follows:

'SIXTH: This Corporation shall not have authority to issue capital stock.'

(c) That Article Tenth of the Articles of Incorporation be and it is hereby amended to read as follows:

'TENTH: This Corporation shall be governed and its affairs and activities shall be managed and controlled by a board of directors, to be known and denominated as the 'Executive Council,' consisting of not less than ten (10) nor more than thirty (30) members, the exact number to be fixed and determined by the Executive Council, with full authority in said Executive Council to vary said number at any time and from time to time. Until and unless the Executive Council shall determine otherwise, such Executive Council shall consist of the five (5) corporate officers (President, Executive Vice-President, Vice-President, Secretary-Treasurer, and Editor of the Association), three (3) Councilors Ex-Officio (Chairman of the Committee on Ethical Practice, Chairman of the Committee on Clinical Certification, and the Corporation's most recent Ex-President), six (6) Councilors-At-Large, and all Officers-Elect (being, at the date of this amendment, two (2): the President-Elect, and the Vice-President-Elect). All vacancies on the Executive Council shall be filled by majority vote of the remaining members thereof, or, in event of a complete vacancy or in event such remaining members are unable to agree upon the necessary successor or successors, then and in such event or events vacancies shall be filled by majority vote of the general membership of the Corporation. The Executive Council shall possess all powers and duties specified in the Corporation's By-Laws, as now in effect and as from time to time hereafter amended, and, in addition, shall have any and all powers and authorities normally possessed by the governing bodies of private corporations not organized for profit, save as specifically withheld or denied by express provisions in said By-Laws contained.'

4. That the foregoing amendments to the Articles of Incorporation of American Speech and Hearing Association were adopted in all respects pursuant to and in conformity with Gen. Stats. Kan. 1949, 17-4207.

IN WITNESS WHEREOF, we have hereunto set our hands as president and secretary of said corporation, and hereunto affixed said corporation's seal, this 4th day of December, 1956.

(James Carrell) President

ATTEST:

(George A. Kopp) Secretary

Committee Appointments

Standing Committees
(Italics indicate ex-officio members)

Committees (Officers; President-Elect, Chairman)
1. *Stanley Ainsworth*
2. *Raymond Carhart*
3. *George A. Kopp*
4. *Robert West*
5. *Jon Eisenson*, Chairman

Nominations (Four appointive members; most recent ex-president, Chairman)
1. Cordelia Brong
2. Jon Eisenson
3. Bruce Graham
4. James Mullendore
5. *James Carrell*, Chairman

Budget (President; Editor of the Association; Secretary-Treasurer, Chairman)
1. *Raymond Carhart*
2. *Robert West*
3. *George A. Kopp*, Chairman

Liaison (President; Vice-President; Secretary-Treasurer; Editor of the Association; Chairman of the Committee on Clinical Certification; Chairman of the Committee on Ethical Practice; Executive Vice-President, Chairman)
1. *Raymond Carhart*
2. *Virgil Anderson*
3. *George A. Kopp*
4. *Robert West*
5. *Ruth B. Irwin*
6. *Frederic Darley*
7. *Stanley Ainsworth*, Chairman

Convention Program (Vice-President-Elect; appointive members; Vice President, Chairman)
1. Dorothy Holland
2. Warren Johnson
3. Atwood Hudson
4. Victor Goodhill
5. James Jerger
6. Hayes Newby
7. Mary Huber
8. Robert Milisen
9. Joseph Sheehan
10. Paul Moore
11. John Webster
12. John Palmer
13. William Fletcher
14. Mary Quirk
15. *Leo Doerfler*
16. *Virgil Anderson*, Chairman

Membership (One member each from speech disorders, hearing disorders, and basic speech and hearing sciences; Chairman of the Committee on Ethical Practice; Secretary-Treasurer, Chairman)
1. Jane Dorsey Zimmerman
2. Mary Rose Costello
3. Gilbert Tolhurst
4. *Frederic L. Darley*
5. *George A. Kopp*, Chairman

Honors (Five members who are Fellows; President-Elect, Chairman)
1. Sara S. Hawk
2. Wendell Johnson
3. Clarence Simon
4. Lee Travis
5. Robert West
6. *Jon Eisenson*, Chairman

Clinical Standards in Speech (Four members who hold Advanced Clinical Certificate in speech; appointive Chairman)
1. Mildred Berry
2. Paul Knight
3. Frank Robinson
4. Jesse Villarreal
5. Lester Hale, Chairman (1956-58)

Clinical Standards in Hearing (Four members who hold Advanced Clinical Certificate in hearing; appointive Chairman)
1. Francis Sonday
2. William Hardy
3. Leroy Hedgecock
4. Jacqueline Keaster
5. John Gaeth, Chairman (1957-59)

Clinical Certification (At least eight appointive members, all holding Advanced Clinical Certificate, four in speech, four in hearing; elected Chairman)
1. Elmer Baker
2. Charles F. Diehl
3. Courtney Osborne
4. Waring Fitch
5. Victor Garwood
6. Forrest Hull
7. Calvin Pettit
8. Empress Zedler
9. Jane Beasley
10. Thelma Knudson
11. Donald Markle
12. Edwin Shutts
13. Ruth Beckey Irwin, Chairman (1956-60)

Ethical Practice (Four members, one each from speech, hearing, and basic speech and hearing science; elected Chairman)

EXTRACT FROM THE REPORT OF THE TREASURER

(Peat, Marwick, Mitchell & Co., Certified Public Accountants)

Balance Sheet

December 31, 1955

Assets		
Current assets:		
Cash		$25,576.62
U. S. Government securities, at cost		15,000.00
Accounts receivable		1,774.17
Total current assets		42,350.79
Equipment, at cost less depreciation:		
Office equipment	$ 1,117.01	
Less allowance for depreciation	540.42	
		576.59
		$42,927.38
Liabilities		
Current liabilities:		
Accounts payable		$ 7,456.92
Advance payment of dues and subscriptions		2,586.20
Accumulated earnings:		
General Association	$24,651.39	
Journal of Speech and Hearing Disorders and other publications	8,232.87	32,884.26
		$42,927.38

1. Kenneth O. Johnson (1957-58)
2. Arthur House (1957-58)
3. Sylvia Richardson (1956-57)
4. E. Thayer Curry (1956-57)
5. Frederic L. Darley, Chairman (1956-60)

Terminology

1. Elaine Paden (1954-57)
2. George Herman (1955-58)
3. Jack Clark (1956-59)
4. Aram Glorig (1957-60)
5. Kenneth Wood, Chairman (1955-58)

Time and Place (Three appointive members; Executive Vice-President, Chairman)

1. Paul Ptacek
2. George Gens
3. Verna Breinholt
4. *Stanley Ainsworth*, Chairman

Publications (Three appointive members, one each from the fields of speech disorders, hearing disorders, and basic speech and hearing sciences; Editor of the JSHD; Editors of any other publications; The Business Manager; Editor of the Association, Chairman)

1. James Curtis (1955-57)
2. Jon Eisenson (1956-58)
3. S. Richard Silverman (1957-59)
4. *Gordon Peterson*, Editor of JSHD
5. *George A. Kopp*, Business Manager
6. *Robert West*, Editor of the Association, Chairman

Special Committees

Association Planning

1. Lee Travis
2. Margaret Hall Powers
3. S. Richard Silverman
4. Clarence T. Simon, Chairman

Speech Correction Fund

1. George A. Kopp
2. Koepp H. Baker
3. M. D. Steer
4. Charles Van Riper

Statement of Income
(*Peat, Marwick, Mitchell & Co., Certified Public Accountants*)
Year ended December 31, 1955

	Total	*General Association*	*Journal of Speech and Disorders Publications*
Income:			
Association dues	$12,179.38	12,179.38	
Convention income	4,099.25	4,099.25	
Member subscriptions	11,987.25		11,987.25
Certification fee income	2,790.50	2,790.50	
Library subscriptions	4,148.83		4,148.83
Non-member subscriptions	844.17		844.17
Single copy sales	1,382.40		1,382.40
Bound volume sales	621.50		621.50
Other publications sales	1,441.13		1,441.13
Interest on government bonds	414.00	276.00	138.00
	39,908.41	19,345.13	20,563.28
Expenses:			
President's expense	205.81	205.81	
Program committee	162.98	162.98	
Committee on clinical certification	3,421.18	3,421.18	
Committee on liaison	146.78	146.78	
Committee on planning	623.99	623.99	
Convention expense	4,861.99	4,861.99	
Secretarial assistance	687.50	687.50	
Postage	1,163.87	470.75	693.12
Stationery and supplies	1,180.97	449.99	730.98
Telephone and telegraph	85.96	85.96	
Professional services	225.00	112.50	112.50
Travel	564.06	493.12	70.94
Printing expense	12,771.33	195.95	12,575.38
Editorial	285.22	54.87	230.35
Editorial assistants	4,182.48		4,182.48
Bad debts	15.85	15.85	
Depreciation	107.69	107.69	
Miscellaneous	1,098.19	1,031.41	66.78
	31,790.85	13,128.32	18,662.53
Net income for the year	$ 8,117.56	6,216.81	1,900.75
Statement of Accumulated Earnings			
Balance at December 31, 1954	$24,766.70	18,434.58	6,332.12
Net income for the year	8,117.56	6,216.81	1,900.75
	$32,884.26	24,651.39	8,232.87

5. Paul Pfaff
6. Martin Palmer
7. Wendell Johnson, Chairman

Organizational Structure

1. Letitia Raubicheck
2. Elise Hahn
3. Bruce Siegenthaler

4. T. D. Hanley
5. Jack Matthews
6. Duane Spriestersbach
7. John V. Irwin, Chairman

Group Insurance

1. Isaac Brackett
2. George A. Kopp

EXTRACT FROM THE REPORT OF THE COMMITTEE ON SPEECH CORRECTION FUND

Financial Statement

October 1, 1955 to September 30, 1956

Fund Balance October 1, 1955			$ 5,045.97
Cash Receipts:			
1. *Contributions from Kappa Delta Phi*			
February 22, 1956	$ 1,500.00		
May 24, 1956	500.00	$ 2,000.00	
2. *Grune & Stratton*, royalties for *Speech Problems of Children*			
March 27, 1956		125.00	
3. *Other Receipts*			
October 27, 1955—S. W. Azar	1.00		
September 7, 1956—ASHA Members in Southern California	135.00	136.00	
Total Cash Receipts			2,261.62
Contribution of National Society for Crippled Children and Adults, Inc.			833.09
Total funds available			$ 8,140.68
Expenditures:			
1. *Scholarships*			
November 2, 1955—K. M. Jagger	500.00		
November 2, 1955—C. E. Renfrew	500.00		
February 1, 1956—Thomas Abbott	500.00		
February 1, 1956—Jay W. Sanders	500.00		
February 1, 1956—Oliver Skalbeck	500.00		
May 1, 1956—Henry Goehl	500.00	3,000.00	
2. *Supplies & Services*			
*Staff Time—Clerical and Fund Adm. Costs	808.46		
Supplies–Photostats, paper, postage, etc.	24.63	833.09	
Total expenditures			3,833.09
Net balance in funds, September 30, 1956			$ 4,307.59

*Represents 3/5 of a day per week for clerical and professional staff time, NSCCA.

3. M. D. Steer
4. Freeman McConnell
5. James Mullendore
6. Delyte Morris, Chairman

Establishment of National Office
1. George A. Kopp
2. Martin Palmer
3. M. D. Steer
4. Darrell Mase, Chairman

Liaison between Otology and Audiology
1. Kenneth O. Johnson
2. Courtney Osborn
3. S. Richard Silverman
4. Glen Taylor
5. Raymond Carhart, Chairman

Sub-Committee on Liaison with American Psychological Association
1. Ira J. Hirsh
2. Claude Kanter
3. Joseph Sheehan
4. Stanley Ainsworth, Chairman

Sub-Committee on Liaison with Federal Agencies
1. Stanley Ainsworth
2. Darrel Mase
3. Wendell Johnson
4. Kenneth Johnson, Chairman

Sub-Committee on Standards in Public School Speech Correction
1. Martha Black
2. Sandra Brown

3. Agnes Frye
4. Geraldine Garrison
5. Dorothy Kester
6. Helen Knight
7. Adah Miner
8. Wilbur Pronovost
9. Mamie J. Jones, Chairman

Sub-Committee on Liaison with International Association of Laryngectomees and American Cancer Society

1. John Anderson
2. Jack Bangs
3. Louis DiCarlo
4. Warren Gardner
5. William Waldrop, Chairman

Examining Committee for Certification in Hearing

1. Harriet Kopp (1957)
2. John Keys (1957)
3. Miriam Pauls (1957)
4. Norton Canfield (1957-58)
5. E. Thayer Curry (1957-58)
6. Moe Bergman (1957-59)
7. S. Richard Silverman (1957-59)
8. Frank Lassman (1957-59)
9. Leo Doerfler, Chairman (1957-58)

Revision of the By-Laws

1. William Tiffany
2. Dorothy Sherman
3. Elaine Paden, Chairman